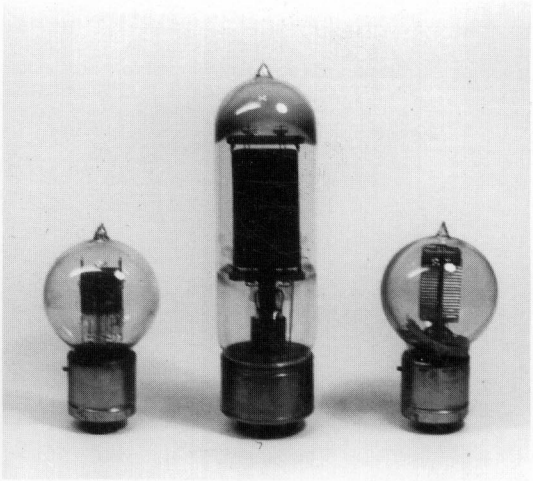
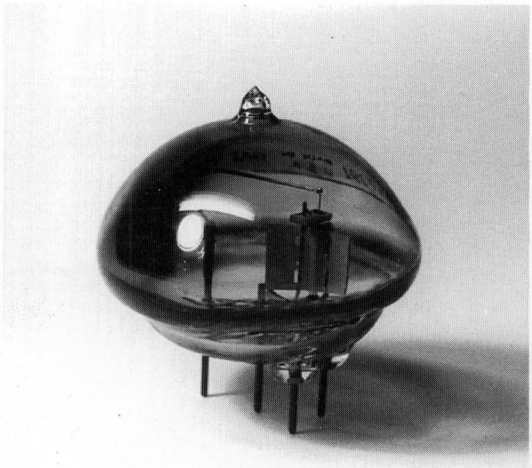
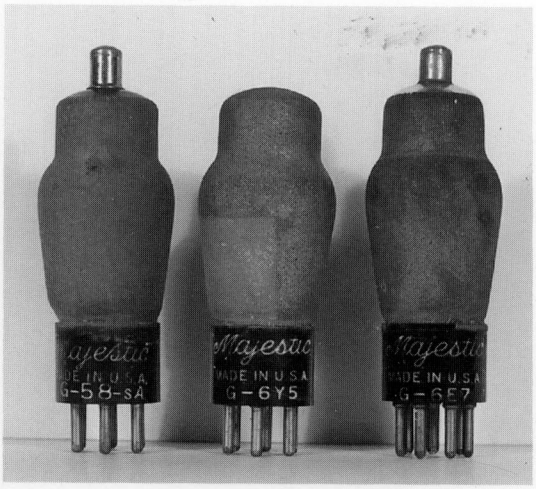
Tube Lore

A REFERENCE FOR USERS AND COLLECTORS







Ludwell Sibley

INTERPRETING TUBE DATA

1. HOUSEKEEPING DETAILS

Tube data presented in this book are organized with the following, necessarily lengthy, conventions.

▪ Bulb sizes are given, per industry practice, as "S" (spherical), "ST" (spherical-tubular), "GT" (globe-tubular), or "T" (tubular). The number following is the nominal diameter in eighths of an inch. Thus a "T12" bulb is tubular, 1-½" in diameter.

▪ Early bases are cited as follows. A "UX" base is the '20s four-pin style with locating pin; a "four-pin" base lacks the pin. A "large 4-pin" base is the size associated with '20s transmitting tubes, then called a "50-watt" base. An "industrial" 4-pin base has skewed, unequal spacing of the pins. A "UY" base is the '20s five-pin format.

▪ "Filament" refers to a directly heated electron emitter, whereas "heater" covers indirectly heated cathodes and "cold cathode" refers to a gas tube. "T-T" means thoriated tungsten. A voltage rating in "VCT" indicates a center-tapped element.

▪ Where a manufacturer is listed in a tube description, data from that maker was used in preparing the listing. This does not identify which manufacturer developed a given type, although the availability of a development number (see below) gives a hint. Indeed, it is quite difficult to distinguish companies that *made* a given tube from companies that *distributed* it - as in the case of the nuvistor, where all original production apparently was from RCA, whereas all later production was from Sylvania. Manufacturers' names are as abbreviated below.

AR: Arpin
AS: Arcturus
BL: Bomac Labs.
BR: Burroughs
BX: Bendix
CGT: Compagnie Generale de T. S. F.
CH: Chatham
CM: Canadian Marconi
EEV: English Electric Valve
EG&G: Edgerton, Germeshausen, & Grier
EL: Electrons, Inc.
EP: Electronic Products
GC: General Electrodynamics
GEC: Gen'l Electric Co. Ltd.
HI: Hitachi
HK: Heintz & Kaufman
HP: Hewlett-Packard
HU: Hughes
HY: Hytronic Labs., later Hytron, CBS Hytron, and CBS
IT: IT&T
JA: Jenkins & Adair
JB: Johnsonburg
KK: Kobe Kogyo
KL: Kuthe Labs.
LE: Lewis Electronics
LI: Litton Industries
LK: Lewis & Kaufman
LME: L. M. Ericsson
MA: Microwave Associates
MC: Marconi (Br.)
MET: Microwave Electron Tube Co.
MU: Mullard
NE: Northern Electric
NEC: Nippon Electric
NL: National Electronics
PH: Philips
PL: Penta Labs
PO: Polarad
RA: Raytheon
RE: Rogers Electronics
RL: Rauland
SFR: Societé Française Radioelectrique
SL: Slater
SP: Sperry
ST: Sonotone
SV: Svetlana
TF: Telefunken
TH: Thomson-Houston (Br.)
THF: Thomson-Houston (Fr.)
TL: Thermonic (sic) Labs
TSU: Toshiba
VA: Varian Associates
VN: Victoreen
VO: Valvo
WE: Western Electric
WT: Weltronic
W: Westinghouse

▪ Manufacturers' developmental or experimental numbers for tubes are listed in {brackets} where known. These numbers usually carry prefixes specific to the maker, as follows:

A: RCA (for amplifiers)
AGR-AX: Amperex
C: RCA (for photodevices)
DT: Tung-Sol
HD: Hytron
R: RCA (for rectifiers)
QF-QL-QM-QT-QY: Raytheon
SA-SB-SC: Sylvania
SD-SR: Sylvania
WX: Westinghouse
XQ (as suffix): WE
Z-ZG-ZP: GE

They help identify the designer of a given tube - except that RCA, say, in preparing to make a GE-designed tube, would assign a developmental number to cover its own manufacturing-standards work.

▪ For registered types, the date of release of the final registration (where known) is shown in parentheses.

▪ For base connections: most tubes have pinouts following one of the RMA/EIA standard basing codes, cited in <brackets>. For example, the 6AB4 triode uses pinout <5CE>. Base diagrams are not printed here, to avoid duplicating diagrams in the manufacturers' tube manuals, the H. W. Sams Tube Substitution Handbook, 1940-1978 editions of the ARRL Radio Amateur's Handbook, and several other present-day tube books.

▪ A letter prefix is often associated with a specific manufacturer - especially for nonregistered types - as follows:

BL: Bomac Laboratories
BW: United Electronics
C: Cunningham, Collins
CE: Continental Electric
CG: Navy, made by GE
CH: Chatham/Tung-Sol
CK: Raytheon
CV: United Electronics
CW: Navy, made by WE
D: WE special or temp. no.
DR: General Electronics
DRJ-DRO: Westinghouse
E: Arcturus (xmtg., 1932)
EE: Electronic Enterprises
EL: Electrons, Inc.
F: Federal
FA-FG-FJ-FP-FR-GL: GE
HF: Amperex
HK: Heintz & Kaufman
HV: United Electronics
HY: Hytron
K: Du Mont
KI-KX: Westinghouse
KU plus 2 digits: Kuthe Labs
KU plus 3 digits: Westinghouse
ML: Machlett Laboratories
NL: National Electronics
NU: National Union
PJ-PR-PT: GE
PM: Sylvania
QK-RK-RKR-RM: Raytheon
R: Sylvania
RJ-RO: Westinghouse
RX: Eitel-McCullough
SE: Navy (Bureau of Steam Eng.)
SR: Westinghouse
Sxx: Sperry
T-TT-TZ: Taylor Tubes
TE: Bendix, Red Bank Div.
TS: Tung-Sol
UE: United Electronics
UH: Eitel-McCullough
VC: Chatham/Tung-Sol
WL: Westinghouse
WT: Weltronic
ZB: Amperex

To the tube researcher, these may be simply "vanity" prefixes for common tubes (e. g., *GL*-807 vs. *NU*-807 vs. *RK*-807 vs. *WL*-807). Conversely, they may distinguish between two entirely different types under the same number (e. g., 951 vs. UE-951).

▪ For rectifiers, peak inverse voltage (PIV) is given. If no PIV rating is known, a voltage "in" is listed, this simply being the applied AC voltage. The rectified DC current is given where available; otherwise a peak value is cited.

- Triodes are associated with an amplification factor μ, and often a transconductance rating g_m. Tetrodes and pentodes generally carry only a transconductance rating.
- Transconductance is given in millisiemens (mS), the international standard unit of conductance. The old-time "micromho" is clumsy because most post-1930 tubes have g_ms above 1000 μmhos. For familiarization, 1.0 mS = 1000 μmhos.
- Tube power ratings, unless noted otherwise, are plate *dissipation*. The figure is for CCS (continuous commercial service), and is a total for multi-section tubes. Output power from a tube is a different matter; it depends on the mode of operation, and can vary up to two-to-one between Class C and Class A.
- Frequency rating, given for most transmitting types, is the limit for use at full power; operation above this frequency is feasible but at reduced power and/or with increased cooling.
- Technical parameters are quoted as the values most usually published; they may vary from catalog to catalog or from maker to maker. (Transconductance is particularly sensitive to specific operating voltage and current.) Occasionally a maker rerated a tube based on production experience - usually upward.
- Certain abbreviations pertain to microwave devices:

BWO: Backwave-wave osc.	IC: Integral cavity
CO: Coaxial output	IM: Integral magnet
EC: External cavity	TWA: Traveling-wave amp.
EM: External magnet	WG: Waveguide output

- Phototubes and photomultipliers are rated as to their spectral sensitivity per the following designations:

No.	Color	Peaks at (Å)
S-1	Red-IR	8000
S-3	Violet	4200
S-4	UV-Violet	4000
S-5	UV	3500
S-8	UV	3700
S-9	Blue	4700
S-10	Blue-Violet	4400
S-11	Blue-Violet	4400
S-13	Blue-UV	4500
S-17	Green-UV	4800
S-19	UV-Violet	3300
S-20	UV-Violet	4200

- Phosphors in cathode-ray tubes carried "P" numbers (now replaced by two-letter indicators). The following designations applied when tubes listed in the CRT chapter were registered:

No.	Color	Peak at (Å)	Persistence
P1 (GJ)	Green	5250	Medium
P2 (GL)	Blue-green	5450	Long
P3 (YB)	Yellow	6000	Medium
P4 (WW)	White	4100, 5400	Medium
P5 (BJ)	Bluish	4300	Short*
P7 (GM)	Blue/green-yellow	4350, 5550	Minutes
P10 (ZA)	(Dark trace)	-	Long
P11 (BE)	Bluish	4600	Short*
P12 (LB)	Orange	5900	Short
P14 (YC)	Purple-org.	4400, 6000	Short
P15 (GG)	Blue-green & near-UV	3900, 5050	Short
P16 (AA)	Near-UV	3900	Short
P22 (XX)	Color TV	4500, 5200, 6300	Medium

* For photo recording.

OTHER DEFINITIONS

- "AKA" ("also known as") refers to multiple designations of the same tube.
- "Remote cutoff" defines a tube that can be biased to handle strong signals without cutting off (and will handle automatic gain control). RCA literature of the '30s called this feature "super-control" or "variable-μ."
- A "dual-control" pentode (e.g. 6AS6} has its suppressor wired out separately for gate use, etc.
- "Beam power tubes" are receiving pentodes with beam-forming plates in place of suppressor grids. However, transmitting tubes include beam triodes and beam tetrodes with different constructions.
- "Radiator" (R) versions of water-cooled transmitting tubes are always forced-air cooled; they are sometimes derated to as low as half the power rating of a liquid-cooled prototype.
- "VHF" tubes are rated for full power to at least 30 MHz, while "UHF" types are rated to at least 300 MHz.
- "G-G" stands for "grounded-grid."
- "TR" refers to the transmit-receive switch in a radar which disconnects the receiver from the antenna during transmission. "ATR" is an anti-TR switch, which disconnects the transmitter from the antenna during reception.
- "NF" stands for "noise figure," a measure (in dB) of how noise an amplifier generates compared to a perfect amplifier.
- "Mobile-rated" means intended for use with varying battery voltage on the heater, with considerable on-off cycling, and with vibration resistance.
- "Gas" means argon, neon, xenon, etc., as opposed to mercury vapor.
- "Cermet" refers to ceramic-metal construction; RCA's trade term for it was "Cermolox."
- Numerous historic tube applications were in military systems. Examples have been cited where known, some of them Signal Corps "BC" components or "SCR" complete systems, or early Navy radars like SC or SG. Post-1942 military systems are denoted under the "AN" nomenclature system. The following subset of the "AN" code, paraphrased a bit, applies to the systems cited.

Installation	Equipment	Purpose
A: Airborne	L: Countermeasures	A: Auxiliary
C: Air transportable[1]	M: Meteorological[2]	C: Communications
D: Pilotless carrier	P: Radar	G: Gun directing
F: Ground, fixed	R: Radio	N: Navigation
G: Ground, gen'l use	S: Special	Q: Special[3]
M: Ground, mobile		R: Receiving
S: Shipboard		S: Search
T: Ground, transport.		T: Transmitting[4]
U: General utility		W: Remote control
		X: Identification, friend-or-foe

1. "C" obsoleted early, but used into the '50s.
2. Often used for radiosondes.
3. AN/MPQ- family is for mortar location.
4. Includes countermeasures transmitters like AN/APT-5.

- "Computer use" means intended for operation over long periods with plate current cut off.

▪ "Liquid-cooled" means cooling with Fluorocarbon FC-75, water, or ethylene-glycol/water - as opposed to "water-cooled." Non-water coolants were common in super-power military mobile transmitters, especially airborne.

2. A NOTE ON EUROPEAN TUBES

A quirk pertains to designations of European tubes. Receiving types of the '50s usually carry a letter indicating heater voltage, a letter(s) showing number of elements, a number indicating base style, and an arbitrary number - for example, ECC88 is a 6.3-V ("E") triode-triode ("CC") on a 9-pin base ("8"). However, many European ruggedized or special-purpose types use a revised sequence; for example, a special variant of the ECC88 is the E88CC. (These are familiar here as the 6DJ8 and its premium variant 6922 respectively.) This is not a hard-and-fast rule - the writer has not seen it elsewhere - but may help explain such cases as EL34 vs. E34L.

3. REGISTRATION THEORY

PREHISTORY

In the early years of the tube industry, numbering of tubes was a free-for-all, structured only by the development capabilities of GE and Westinghouse and the market power of RCA. Receiving tubes of early vintage (but late enough to have bases) are listed in the "Prehistory" chapter, including lists of uniquely numbered types from the smaller manufacturers.

Transmitting tubes of this era fell mainly into the 800-series, as numbered mainly (and randomly) by RCA. This did not prevent double use of identifiers - for example, 814s from Taylor vs. RCA, 825s from Taylor vs. RCA, or 889s from Du Mont vs. RCA. These types are detailed in the "800" chapter. Meanwhile GE, WE, Westinghouse, and the "independent" makers were free to devise their own tube types and give them their own nomenclature.

RECEIVING TUBES

The Radio Manufacturers' Association (today's Electronic Industries Association) began putting order into the numbering of receiving tubes in 1933. The first "release" of the Committee on Tube Numbering, chaired by David Grimes of Philco, was dated Feb. 5, 1934. It dealt with the 1A6 and the 1C6, as registered by Sylvania. Release 3 covered the 2A3 and 2A3H. Release 6 (Sept. 14, 1934) dealt with the 2A5, 6C6, and 6D6. The registration process continued throughout "tube history": for example, Release 5536 of June 26, 1967, defined the 6BW11.

Tube identifiers were assigned according to a simple code. An initial digit gives filament or heater voltage: "0" for cold-cathode, "1" for 1 to 2 volts, and on up. The code was gerrymandered slightly to accommodate the loktal series: "7" and "14" refer to 6.3- and 12.6-volt tubes in loktal format.

The letter(s) following the number were assigned (nominally) in sequence from "A," while rectifiers were lettered backward from "Z." As a special case, 6S( ) covered several single-ended versions of double-ended metal tubes, e. g. 6SK7 vs. 6K7.

The final character is a digit giving the number of "usable" elements, that is, elements wired out individually. Thus a simple cathode-type triode would be scored as (heater + cathode + grid + plate) or "4," as in 6J4. Shields having their own base pins counted; elements wired internally to other elements did not. Taps on heaters theoretically did not count, but there were exceptions like the 35Z5GT.

Suffixes later became common:

"A," "B," "C": improved, backward-compatible versions.
"E": "Export" version. It has never been clear what this implies, but numerous examples include 1LA6E, 6A7E, 6J8EG, and 7J7E.
"G": Large spherical-tubular (ST) glass bulb.
"GT": Small (T9) tubular glass bulb.
"GT/G": GT-size fits-all replacement for either "G" or "GT" type.
"S": Spray-shielded (zinc-clad) glass tube. In practice these were from Majestic in the U. S. (Raytheon for subminiatures) or Rogers in Canada.
"L": Loktal format, on an octal base with normal octal pinout.
"LM," "ML": "loktal-metal," RCA and GE's short-lived construction, ca. 1940.
"LT": RCA's briefly produced loktal-like tube with metal-ringed loktal-wafer base.
"MG": "Metal-glass" construction.
"W": Ruggedized.
"X": Ceramic-based variant (usually from HY, sometimes SY).
"Y": Micanol (mica-filled phenolic) base.

Variants suffixed "E," "L," "W," "X," and "Y" were not registered as such. Presumably the specifications for the "W" types were determined satisfactorily by military specifications like JAN-E-1A and its successors.

The chapter on registered receiving tubes lists types that are (A) from the 1934-1950 era, (B) prototypes of specials listed in other chapters, (C) obscure types not listed in regular tube manuals like RCA's RC-30, or (D) types that are simply odd or interesting.

CATHODE-RAY TUBES

The RMA began registering CRTs in 1939. The code used is simply (1) the nominal screen diameter in inches, (2) a letter or letters starting from "A," and (3) a "P" number giving the phosphor. Heater voltage was not a problem; the early tubes "all" used 2.5 V @ 2.1 A; later ones "all" used 6.3 V @ 600 mA. There was no attempt to encode the method of focusing or deflection.

SPECIAL-PURPOSE TYPES

The RMA took on assigning numbers for special-purpose and transmitting tubes in 1942, using a number-letter-number coding scheme. Under this system, about 480 tube types carry somewhat mysterious number-letter-number designations like "2E26" or "4D32." Among the first registrations, in September 1942, was Release 303 covering the 1C21. The code is given at the head of the chapter covering these types.

This system lumped together tubes of all sizes and uses having the same number of elements - "D" included both subminiatures and huge water-cooled items. It did not distinguish among vacuum, mercury-vapor, or gas-filled devices. Multiple-section tubes like the 2G21 were simply scored by the most complex section.

The coding plan didn't last long, being officially dropped ca. 1944 in favor of a non-system: simply assigning four-digit numbers beginning with "5500." Even so, registration releases con-

tinued to come out (e. g., for the 2J70) under the supposedly defunct 1942 system as late as 1955. The four-digit plan wasn't particularly easy on the user - the *7894* and *7984*, for example, were both small transmitting tubes, and it was easy to confuse them. The four-digit plan lasted until the end of new tube registrations, and occupies the longest chapter in this book. Somehow it includes germanium P-N junction devices (7223, 7224, 7467) and numerous cadmium-sulfide photoconductors (8100, et al.) - items that are hard to view as "tubes."

Besides the new types, most existing items in the 800 and 900-series were retroactively registered in the early '40s.

The exception to the four-digit plan was solid-state devices. The arrival of the transistor gave the superseded code new life. The first number was redefined: "1" had always applied to diodes, "2" now covered triode transistors, "3" described tetrode or dual-gate transistors, and "4" or "6" referred to multi-lead devices like diode-phototransistor optoisolators. The "1N" numbers reached about 1N6300; "2N," around 2N6800; "3N," about 3N260; "4N," ca. 4N50, "6N," around 6N140. Even so, a changeover to nonregistered (manufacturer-numbered) types slowly occurred, and was largely complete by the time integrated circuits arrived.

Many wartime and '50s tubes were "classified" military technology. Indeed, final registration documents on most radar devices (klystrons, magnetrons, TR tubes) were publicly released only several years after the war, after many of them had become obsolete. A couple of tubes remained secret: as late as 1967, the 2C27 and 2E27 were officially listed as classified - probably as the result of inattention rather than of any continuing military value. Correspondingly, the services maintained a list of types preferred for their use. The unclassified part of the list was widely published; the classified part was not, even (as far as is known) in later times.

Contrasting with the more obscure types, many registered tubes were highly successful and had long periods of popularity. The 2E26, for example, appeared in new equipment designs into the mid-'60s. The 2J42 magnetron was common in later years, both by itself and in improved variants numbered in the four-digit series. It is ironic that devices like the 2K22 klystron, developed to help shut down Germany and Japan, were made in the '60s by Telefunken and Toshiba!

The fact of being registered did not guarantee that a given type was made in quantity, or made at all. Some of the more obscure tubes - whether actually produced or not - had their registrations abandoned; the RMA/EIA registration list in later years simply omitted them and their release dates. Hence the lack of some dates in the lists.

Every process has exceptions. Some special-purpose tubes were designated under the receiving-tube plan. For example, RCA's special versions of the 12SA7, 12SN7, and 12SR7 for aircraft radios operating from 28-volt battery power were registered as the 12SY7, 12SX7, and 12SW7 respectively. Sylvania's 6BL6 and 6BM6 small klystrons were likewise numbered as if they were "receiving" tubes. When Sylvania and GE were hopeful of selling high-performance tubes for RF stages in UHF TV tuners, they registered the "receiving" 6BA4 and 6BY4 - variants respectively of the 2E26 "rocket" triode and the 6299-7077-7391 family of cermet triodes. Conversely, many late home-audio types were inexplicably registered as "special-purpose": the 7025, 7027, 7189, 7199, 7247, 7754, et al.

Even the simple four-digit numbering plan eventually faltered, while approaching 9000 in the 1970s. RCA, for one, eventually began assigning its own four-digit numbers - in the 2000- and 4000-series - for everything from TV transmitting tubes to cadmium-sulfide photocells.

WHETHER TO REGISTER

Tube makers were free to register their new designs or not. Whether to do so seems to have been a marketing decision. The military services strongly preferred registration, as consistent with their preferred-type lists and with competitive procurement. Registered, the tube might attract second-source makers, who could either (A) increase the salability of the tube or (B) take revenue away. Not registered, the tube might give control of a niche market - and certain industries like radar countermeasures were niches too small to support the administrative burdens of registration. The stakes could be high, as when Westinghouse won a competitive military contract to supply 3500 magnetrons of a registered type. The makers often registered tubes long after introduction, apparently as a result of changes in sales strategy. (The prime example was Eimac, which registered dozens of tubes in the 8000-9000 area when many of had been on the market for years.)

On a tube-box lid, evidence of a registration process out of control.

The RMA-EIA was a registrar, not a policeman. The manufacturers were quite happy to devise tubes only minimally different from those of their competitors. Pressure from transistors forced the development of tubes narrowly optimized for the color-TV market - usually in triple variants for series heater strings at 300, 450 and 600 mA. Toward the end of the tube era, especially with RCA's industry leadership eroding, this led to a glut of dual-, triple-, or even quadruple-numbered types barely distinguishable from each other. This remains a source of confusion today.

RECEIVING TYPES UNDER RMA-EIA SYSTEM

0A2, WA [AKA WT-210-0051, 150C2, STV150/30]; min. voltage regulator, 150 V @ 5-30 mA (HY) {S856, HD51} (6-8-45) <5BO>. "WA" is rated at 148 V. Variants: 6073, 6626, 6830.

0A3 [AKA VR-75/30, 38275, VT-260]; octal voltage regulator, 75 V @ 5-30 mA (HY) (3-6-44) <4AJ>.

0A4G Cold-cathode octal triode, promoted for use in calculating machines and RF remote-control systems operating via AC power lines; 225 V, 25 mA (4-25-38) <4V>. Variant: 1267.

0A5 Min. cold-cathode relay pentode, for triggering photoflash tubes; 1 kV max. (SY) (1-15-47). Used with flash tubes like SY R4330.

0B2, WA Min. voltage regulator, 108 V @ 5-30 mA (HY) {HD52, S860} (5-18-45) <5BO>. Variants: 5787, 6074, 6627, 6831.

0B3 [AKA VR-90, VR-90/30, 38290, VT-184, WT-210-0016]; octal voltage regulator, 90 V @ 5-40 mA (HY) (9-14-42) <4AJ>. Variant: 1265.

0C2 Min. voltage regulator, 75 V @ 5-30 mA (SY) {S859} (3-31-58) <5BO>.

0C3, A, W [AKA VR-105, VR-105/30, 38205, VT-200, CV686]; octal voltage regulator, "105" (108) V @ 5-30 mA (HY) (3-6-44) <4AJ>. "A" has T9 bulb. "W" has T9 bulb inside deep Micanol cup base.

0D3, A, W [AKA VR-150, VR-150/30, 38250, VT-139, CV216, WT-210-0018]; octal voltage regulator, 150 V @ 5-30 mA (HY) (9-14-42) <4AJ>. For "A" and "W," see 0C3.

0G3 [AKA 85A2, STV85/10]; min. voltage regulator, 85 V @ 1-10 mA (5-28-52).

0Y4, G Gas rectifier, ionically heated cathode w/ starter electrode, 300 V PIV; gives 40-75 mA from 117 V; promoted to replace 117Z6GT (RA) (9-20-45) <4BU>. "G" is in 0Z4G format.

0Z3 Gas rectifier, ionically heated cathode, 350 V applied, 75 mA, intro. 1933 (RA) (6-17-35) <5N>. No known use.

0Z4, A, G Full-wave gas rectifier, ionically heated cathode, 1.6 kV PIV, 30-75 mA (RA) (10-24-35). Uprated to 90 mA in 1945. "G" is small (T7) size. "A" [AKA (CK) 1003] is uprated to 110 mA (RA) (10-15-56) <4R>.

1A1 Ballast tube, 1.0 V @ 500 mA (SY) (10-26-34).

1A3 Min. HF diode, fil. 1.4 V @ 150 mA, 330 V PIV, 5 mA (RCA, W) (5-9-42) <5AP>.

1A4, P, T Rcvg. remote-cutoff pentode, ST12 bulb w/ cap, 4-pin base, fil. 2.0 V @ 60 mA, 1D5 char. (RCA) {A4028} (5-21-35). "P" and "T" lettering derives from industry confusion: SY introduced 1A4 as a tetrode <4K>; others as a pentode <4M>. The pentode version eventually won out. The two should interchange today.

1A5GT/G [AKA VT-124, CV756]; power pentode, fil. 1.4 V @ 50 mA, g_m 0.8 mS, 100 mW out (1LA4 char.); needs 90 V B+; sim. to 1Q5GT, 1T5GT (SY) (6-10-38) <6X>. 1A5G was in the first mass-market series of 1.5-V 50-mA tubes, announced by SY in mid-1938; the others: 1A7G, 1C5G, 1H5G, and 1N5G.

1A6 Pentagrid conv., same as 1C6 except for capacitance (RCA) {A564} <6L>.

1A7GT/G [AKA VT-147, CV2]; pentagrid conv. sim. to 1B7GT, 1LA6 (6-10-38) <7Z>.

1AB5 [AKA SD719]; loktal HF pentode, "high" g_m of 1.35 mS (SY, W) (3-20-44) <5BF>.

1AB6 [AKA DK96]; min. pentagrid conv., fil. 1.4 V @ 25 mA (HY, TF) (10-16-51) <7DH>. Also see 1AC6.

1AC5 T3 submin. pentode, part of early SY-RCA line for AM radios including 1AD6, 1E8, and 1T6; fil. 1.25 V @ 40 mA, 50 mW out (12-31-48) <8CP>.

1AC6 [AKA DK92]; min. pentagrid conv., fil. 1.4 V @ 50 mA (HY, TF) (10-16-51) <7DH>. Appears to be re-filamented 1AB6.

1AD4 [AKA DF62]; T2X3 submin. RF-AF pentode, spray-shielded, 1.25 V @ 100 mA, g_m 2.0 mS (RA, SY, TF) {QF-408} (1-27-49). Variant: 5875.

1AD5 T3 submin. sharp-cutoff pentode, fil. 1.25 V @ 40 mA (12-31-48) <8CP>.

1AD6 Submin. pentode, fil. 1.25 V @ 40 mA; see 1AC5.

1AE4 Min. pentode, sharp cutoff, fil. 1.25 V @ 100 mA, g_m 1.6 mS (HY) (3-21-50) <6AR>.

1AE5 Submin. mixer, fil. 1.25 V @ 60 mA {QF-409} (1-27-49).

1AF4 [AKA 1AJ4]; min. remote-cutoff RF pentode, fil. 1.4 V @ 25 mA, g_m 1.0 mS (HY, SY) (2-8-50) <6AR>.

1AF5 [AKA 1AH5]; min. diode-pentode, fil. 1.4 V @ 25 mA, g_m 1 mS (HY, SY) (2-8-50) <6AU>.

1AG4 T2X3 submin. power pentode, fil. 1.25 V @ 40 mA, g_m 1.0 mS, 35 mW out (RA, SY, W) (8-16-54).

1AG5 T2X3 submin. diode-pentode, fil. 1.25 V @ 40 mA, g_m 0.25 mS (SY, W) (9-12-55).

1AH4 T2X3 submin. flat-press RF pentode, spray-shielded, fil. 1.25 V @ 40 mA, g_m 0.75 mS (4-23-51).

1AH5 [AKA DAF96, 1AF5, q. v.]; min. diode - AF pentode, fil. 1.4 V @ 25 mA, g_m 0.55 mS (HY, TF) (10-16-51) <7DJ>.

1AJ4 [AKA DF98]; remote-cutoff RF pentode, fil. 1.4 V @ 25 mA, g_m 0.75 mS (HY, TF) (5-29-53) <6AU>. Also see 1AF4.

1AJ5 T2X3 submin. diode-pentode, fil. 1.25 V @ 40 mA, g_m 0.425 mS (TS, W) (8-16-54).

1AK4 T2X3 submin. RF pentode, fil. 1.25 V @ 20 mA, g_m 0.75 mS (RA, SY) (8-16-54).

1AK5 T2X3 submin. diode-pentode, fil. 1.25 V @ 20 mA, g_m 0.28 mS, sim. to 5804 (RA, SY) (8-16-54).

1B1 Ballast tube, 1 V @ 360 mA (NU, SY) (5-21-35).

1B3GT HV rectifier, T9 bulb w/ cap on octal base, fil. 1.25 V @ 200 mA; 8016 uprated to 30 kV, later derated to 26 kV, and from 2 mA to 0.5 mA (RCA) {R6158A} (6-28-46). Variant: 6215. History: developed from prewar 8016. Announced in 1946 w/ 1" 8-lead button stem. Had silver type numbers on side until 1947; these were found to contribute to electrolysis of glass; base-brand only thereafter. Changed to 4-lead pressed stem, 1949. Got lead-glass bulb in 1951 to reduce X-rays, new flatter stem shield, and removal of mica spacers and two stem leads. White-banded variant appeared, 1952, using alundum coat to avoid gas from bulb. Red-etched (1955-58) w/ non-metallic ink on hydrogen-fired bulb. 1B3GT/-1G3GT is shortened version, derated on PIV, introduced later (3-25-57) <3C>.

1B4P, T Sharp-cutoff pentode, 1E5GP char., 2.0 V @ 60 mA, g_m 0.65 mS, repl. 951 (RCA) {A4027} (8-28-35) <4M>. "T" was tetrode version <4K>. See 1A4 re "P" vs. "T."

1B5/25S Duodiode-triode, 1H6G char. (RCA) {A483} <6M>.

1B7GT/G Pentagrid conv. sim. to 1A7GT, fil. 1.4 V @ 100 mA (7-28-39) <7Z>.

1B8GT Diode-triode-pentode (9-15-39) <8AW>.

1C1 Ballast tube, 1 V @ 745 mA (SY) (10-26-34).

1C3 Min. triode based on 1LE3, "export" type, fil. 1.4 V @ 50 mA, μ 14.5 (HY, SY) (8-15-49) <5CF>.

1C4 Pentode, sim. to 1A4P (Aust.) (12-10-35) <4K>.

1C5GT/G [AKA VT-125, CV1805]; pentode, 100 mA; more output than 1A5 but requires 90 V; sim. to 1Q5GT, 1T5GT (TS) (6-10-38) <6X>.

1C6 Pentagrid conv., 1C7G char. (RCA) {A593} (2-5-34) <6L>.

1C7G Pentagrid conv., octal 1C6 (RCA) {A5507} (5-4-36) <7Z>.

1C8 T3 submin. fil. triode-heptode conv. - part of an AM radio complement with 1Q6, 1V5, and 1W5 (SY) (1-25-46) <8CN>.

1D1 Ballast tube, 1.0 V @ 240 mA (SY) (10-26-34).

1D2 Ballast tube (9-21-36).

1D3 T3 submin. low-μ RF triode, fil. 1.25 V @ 30 mA, μ 8.7 (SY) {SD1066A} (9-21-50) <8DN>.

1D4GT/G Power pentode, fil. 2.0 V @ 240 mA (Aust.) (12-10-35) <5B>.

1D5G, GP, GT Remote-cutoff pentode, ST12 bulb w/ cap, octal 1A4P; fil. 2.0 V @ 60 mA, g_m 750 mS, sim. to 1E5G (RCA) {A4042} (5-4-36) <5Y>. "GT" is tetrode version <5R>; see 1A4 re "GP" vs. "GT." In this case, "GT" does not imply a T9 bulb!

1D7G Pentagrid conv., octal 1A6 (RCA) {A5508} (5-4-36) <7Z>.

1D8GT [AKA VT-148, CV1811]; diode-triode-pentode, fil. 1.4 V @ 100 mA, triode μ 25, pentode g_m 0.875 mS, 200 mW out (RCA) (6-23-39) <8AW>.

1DN5 Min. diode-pentode, 1S5 w/ pinout scrambled (GE, RCA, W) (4-6-57) <6BW>.

1E1 Ballast tube, 1.0 V @ 480 mA, supersedes 1P1 (NU, SY) (5-21-35).

1E2 Ballast tube (9-21-36).

1E3 [AKA DC80]; min. 9-pin UHF power triode, fil. 1.25 V @ 220 mA, g_m 3.5 mS (HY) (10-16-51) <9BG>.

1E4G Triode sim. to 1H4G and 1LE3, fil. 1.5 V @ 50 mA, μ 14.5 (SY) (2-10-39) <5S>.

1E5G, GP, GT [AKA VT-170, CV45]; RF pentode, octal 1B4P, ST12 bulb w/ cap, sim. to 1D5GP; repl. 1E5G and 1E5GT (RCA) {A4027} (5-4-36) <5Y>. "GT" is tetrode version <5R>; another non-T9 "GT." See 1A4 re "GP" vs. "GT."

1E7G [AKA 38717E]; twin power pentode, ST12 bulb, fil. 2.0 V @ 240 mA, g_m 1.6 mS, 575 mW out (RCA) {A5510} (3-26-36) <8C>.

1E8 T3 submin. conv., fil. 1.25 V @ 40 mA (SY) (12-31-48) <8CN>. Also see 1AC5.

1F1 Ballast tube, 1.0 V @ 720 mA (SY) (7-9-35).

1F4 Power pentode, 5-pin base, 1F5G char. (RCA) {A4029} (2-1-36) <5K>.

1F5G Power pentode, octal 1F4, ST14 bulb, fil. 2.0 V @ 120 mA, g_m 1.7 mS, 300 mW out (RCA) {A4044} (5-4-36) <6X>.

1F6 Duodiode-pentode, ST12 bulb w/ cap, 6-pin base, fil. 2.0 V @ 60 mA, g_m 0.65 mS (RCA) {A518} (4-14-36) <6W>.

1F7G, GH, GV Duodiode-pentode, octal 1F6 w/ cap. Versions are: "G" (RCA) {A523} (6-12-36) <7AF>; "GH" (TS) (3-18-38); "GV" (RCA) (6-7-37). "GV" has one diode above the other at the (-) end of the fil.

1G1 Ballast tube, 1.0 V @ 420 mA (SY) (7-9-35).

1G4GT/G Low-μ octal triode, fil. 1.4 V @ 50 mA, μ 8.8, sim. to 1E4G, 1H4G (1-20-39) <5S>.

1G5G Power pentode, ST14 bulb, octal base, sim. to 1J5G, fil. 2.0 V @ 120 mA, g_m 1.5 mS, usable with low B+ voltage (SY) (3-9-37) <6X>.

1G6GT/G Twin Class B power triode, T9 bulb on octal base, fil. 1.4 V @ 100 mA, g_m 0.675 mS, 675 mW out @ 90 V (1-20-39) 7AB>.

1H4G Triode, octal 30, ST12 bulb (RCA) {A2041} (5-4-36) <5S>.

1H5GT/G [AKA VT-223, CV104]; diode-triode, fil. 1.4 V @ 50 mA, μ 65; triode has 1LH4 char. (RCA) (6-10-38) <5Z>.

1H6G Duodiode-triode, octal 1B5, fil. 2.0 V @ 60 mA, μ 20 (RCA) {A4045} (5-4-36) <7AA>.

1J1 Ballast tube (9-25-35).

1J5G Power pentode, octal 950 (3-31-37) <6X>.

1J6GT/G, High-μ power duotriode, octal 19 (RCA) {A4046}

GX (5-4-36) <7AB>.

1K1 Ballast tube, 1.0 V @ 550 mA, repl. 5H1, 10A3, LLL25 (SY) (5-4-36).

1K4 Duodiode-pentode, 1K5G char. (Aust.) (1-20-37).

1K5G Duodiode-pentode (Aust.), octal w/ cap (3-22-38). In rcvr. and xmtr. of W. S. No. 101 of 1938.

1K6 "Aust. type" (9-30-36).

1K7G Aust. pentagrid conv., octal w/ cap, same use as 1K5G (3-20-38); also in W. S. No. 11 (Aust.).

1L4 [AKA DF92]; min. sharp-cutoff RF-IF pentode, for FM rcvrs, based on 1N5, fil. 1.4 V @ 50 mA, g_m 0.93 mS (SY, TF) (5-20-42) <6AR>.

1L5G "Aust. type." In xmtr. of Aust. FS6 xcvr. (3-22-38).

1L6 Min. pentagrid conv., fil. 1.4 V @ 50 mA, based on 1LA6. Favored over 1R5 based on SW performance (4-5-49) <7DC>. Variant: 1U6.

1LA4, E Power pentode, loktal 1A5GT (NU) <5AD>.

1LA6 Loktal pentagrid conv. sim. to 1A7G, 1C7G, 1LC6 (5-16-39) <7AK>.

1LB4 Loktal power pentode, fil. 1.4 V @ 50 mA, g_m 0.875 mS (char. of pentode of 1D8), suited to B+ as low as 60 V (9-4-39) <5AD>.

1LB6 Loktal pentagrid converter, fil. 1.4 V @ 50 mA (SY) (1-24-40) <8AX>.

1LC5 Loktal sharp-cutoff RF-IF pentode, suited to B+ as low as 45 V, fil. 1.4 V @ 50 mA, g_m 0.75 mS (5-8-40) <7AO>.

1LC6 [AKA VT-178, CV3]; loktal pentagrid conv. sim. to 1LA6, suited to B+ as low as 45 V, fil. 1.4 V @ 50 mA (5-8-40) <7AK>.

1LD5 Loktal diode - audio pentode, pentode sim. to 1LN5, suited to B+ as low as 45 V (5-8-40) <6AX>.

1LE3, Spl [AKA VT-239, CV46]; loktal med.-μ triode, fil. 1.4 V @ 50 mA, μ 14.5 (4-15-40) <4AA>. "Special," used in Army I-107F VTVM, is supersed. by 1LF3.

1LF3 Loktal triode, 1LE3 w/ low grid-current limits (4-10-48) <4AA>.

1LG5 Loktal remote-cutoff pentode, fil. 1.4 V @ 50 mA, g_m 1.0 mS (SY) (12-20-45) <7AO>.

1LG6 Loktal, postwar (SY), otherwise unknown.

1LH4 [AKA VT-177, CV780]; diode-triode, loktal 1H5G (SY) (5-16-39) <5AG>.

1LN5, E [AKA VT-179, CV781]; loktal sharp-cutoff RF-IF pentode sim. to 1N5, fil. 1.4 V @ 50 mA, g_m 0.8 mS (NU) (5-16-39) <7AO>.

1M5G Aust. type; RF pentode, octal w/ cap, fil. 2.0 V @ 120 mA, used in rcvr. of W. S. No. 11 (Aust.) (3-22-38) <5Y>.

1N1 Ballast tube (3-18-36).

1N5GT/G [AKA VT-146, CV37]; sharp-cutoff RF-IF pentode, fil. 1.4 V @ 50 mA, g_m 0.75 mS (SY) (6-10-38) <5Y>.

1N6GT Diode - power pentode, fil. 1.4 V @ 50 mA, g_m 0.8 mS, 100 mW out (SY) (4-12-39) <7AM>.

1P1 Ballast tube replaceable by 1E1 (3-18-36).

1P5GT/G RF remote-cutoff pentode, fil. 1.4 V @ 50 mA, g_m 0.75 mS, eff. same as 1N5 (3-28-39) <5Y>.

1Q1 Ballast tube (3-18-36).

1Q5GT/G Power pentode, fil. 1.4 V @ 100 mA, g_m 2.2 mS, 400 mW out, sim. to 1C5GT, 1T5GT, 1A5GT (2-17-39) <6AF>.

1Q6 T3 submin. diode-pentode, 1.25 V @ 40 mA, g_m 0.6 mS (SY) (1-25-46) <8CO>.

1R1G Ballast tube, 1 V @ 540 mA (SY) (5-26-36).

1R4 [AKA 1294, VT-183, CV91]; loktal VHF diode, fil. 1.4 V @ 150 mA, 365 V PIV, 1 mA (SY) (2-1-43) <4AH>.

1R5 [AKA VT-171, CV782, DK91]; min. pentagrid conv. based on 1A7, fil. 1.4 V @ 50 mA (RCA) (11-13-39) <7AT>; part of the first complement of min. AM radio tubes, with 1S4, 1S5, and 1T4.

1R6 [AKA RTS-98, VC1568]; "min. fil. reactance modulator" (unverified).

1S1G Ballast tube (6-17-36).

1S4 [AKA VT-210, CV181]; min. power pentode based on 1Q5, fil. 1.4 V @ 100 mA, g_m 1.575 mS, 270 mW out (11-13-39) <7AV>. Also see 1R5.

1S5 [AKA VT-172, CV124, DAF91]; min. diode - sharp-cutoff pentode, fil. 1.4 V @ 50 mA, g_m 0.63 mS, sim. to 1LD5, 1LH4, 1U5 (11-13-39) <6AU>. Also see 1R5.

1S6 T3 submin. diode-pentode, fil. 1.25 V @ 40 mA, g_m 0.3-0.6 mS (SY) (1-18-49) <8DA>.

1SA6GT Octal med.-cutoff RF pentode, fil. 1.4 V @ 50 mA, g_m 0.95 mS (TS) (4-22-41) <6BD>.

1SB6GT Octal diode-pentode, fil. 1.4 V @ 50 mA, g_m 0.65 mS (SY) (4-22-41) <6BE>.

1T1G Ballast tube, 1.0 V @ 560 mA (SY) (5-26-36).

1T4, WA [AKA VT-173, CV35, DF91]; min. remote-cutoff pentode based on 1P5, sim. to 1LC5, fil. 1.4 V @ 50 mA, g_m 0.8 mS (SY) (11-13-39) <6AR>. Also see 1R5.

1T5GT Beam power tube, fil. 1.4 V @ 50 mA, g_m 1.1 mS, 170 mW out, sim. to 1A5GT, 1C5GT, 1Q5GT (SY) (5-19-39) <6X>.

1T6 T3 submin. diode-pentode, fil. 1.25 V @ 40 mA, g_m 0.6 mS (SY) (12-31-48) <8DA>. Also see 1AC5.

1U1 Ballast tube (11-13-36).

1U4, WA [AKA M16-T-51970, DF904]; min. sharp-cutoff RF-IF pentode based on 1LN5 (or 1N5). Same fil. and pinout as 1L4, different curves, g_m 0.9 mS (TS) {DT153} (8-15-45) <6AR>. Variant: 5910.

1U5 Min. diode-pentode; 1S5 w/ pinout scrambled (SY) (10-25-45) <6BW>.

1U6 Min. pentagrid conv., fil. 1.4 V @ 25 mA, like half-current 1L6 (2-8-50) <7DC>.

1V5 T3 submin. pentode, fil. 1.25 V @ 40 mA, g_m 0.75 mS (SY) (1-25-46) <8CP>; see 1C8.

1V6, S T2X3 submin. triode-pentode osc.-mixer, fil. 1.25

V @ 40 mA, triode section has g_m 0.55 mS; pentode has 0.2 mS. Also see 1C8 (GE, SY, W) (4-23-51). "S" has short leads for socket use.

1W1 Ballast tube (1-17-38).

1W4 Min. power pentode, based on 1LB4, fil. 1.4 V @ 50 mA, g_m 0.925 mS, 200 mW out (SY, TS) (8-19-49) <9U>.

1W5 T3 submin. fil. pentode, fil. 1.25 V @ 40 mA, g_m 0.735 mS (SY) {SD828F} (1-25-46) <8CP>. Also see 1C8.

1Y1 Ballast tube, 1.0 V @ 540 mA (SY) (9-11-36).

1Y2 HV rectifier, ST14 bulb w/ cap on 4-pin base, fil. 1.25 V @ 265 mA, 50 kV PIV, 2 mA (CH, SY) (9-6-46) <4P>.

1Z1 Ballast tube, 1.0 V @ 900 mA (SY) (9-11-36).

1Z2 Min. rectifier, w/ cap, fil. 1.25 V @ 265 mA, 20 kV PIV, 2 mA (RCA) {R1045} (8-10-45) (CH, SY, TS) <7CB>.

2A3, A, H, W [AKA 38213, VT-95, CV1831]; power triode, ST-16 bulb, UX base, fil. 2.5 V @ 2.5 A, μ 4.2, 15 W (RCA, SY, TS) {A181} <4D>. Variants: 6A3, 6A5G, 6B4G, 5930. "A" and "W" are ruggedized. "H" is heater version (AS, NU, RA) (5-6-41).

2A4G Argon triode octal thyratron, ST12 bulb, fil. 2.5 V @ 2.5 A, 200 PIV, 100 mA (CH, HY, TS) (9-27-39) <5S>. Stepping-switch controller in Philco "Mystery Control" receiver; also promoted as grid-controlled rectifier.

2A5 [AKA KR25, 38215]; power pentode, heater 2.5 V @ 1.75 A, 11 W (42 char.) (RCA) {A451} <6B>.

2A6 Duodiode-triode, 75 & 6B6G char., heater 2.5 V @ 800 mA, μ 100 (RCA) {A4006} <6G>. Variant: 1659.

2A7, S Pentagrid conv., 2.5-V 6A7 (RCA) {A508} (11-22-34) <7C>. "S" has spray-shield.

2B4 Thyratron, heater 2.5 V @ 1.5 A, replaceable by 885 (DuM) (1-2-43) <5A>.

2B6 Power amp., direct-coupled duotriode, htr. 2.5 V @ 2.25 A, μ 18, 4.0 W out (AS, JB) (5-6-41) <7J>.

2B7 [AKA 38227]; duodiode-pentode, 2.5-V 6B7 (RCA, TS) {A557} <7D>.

2C4 Min. gas triode thyratron, heater 2.5 V @ 600 mA, 350 V PIV, 5 mA (HY) (7-14-43) <5AS>.

2E5 Electron-ray tuning ind., 2.5-V 6E5 (4-24-36).

2F7 Triode-pentode, 2.5-V 6F7 (KR).

2G5 Electron-ray tuning indicator, 2.5-V 6G5 (TS) (4-24-36).

2V3G Diode rectifier, octal w/ cap, for CRT HV, fil. 2.5 V @ 5 A, 16.5 kV PIV, 2 mA (RCA, TS) (1-9-39) <4Y>.

2W3, GT Rectifier, metal, fil. 2.5 V @ 1.5 A, 350 V applied, 55 mA (NU) (5-2-38) <4X>. "GT" has T9 bulb (6-6-39).

2X2, A, W [AKA 143D, 879, VT-119, CV248]; HV rectifier, UX base w/ cap, for CRT HV and radar "keep-alive" supplies, fil. 2.5 V @ 1.75 A, PIV 12.5 kV, 7.5 mA (RCA) (7-6-39) <4AB>. "A" [AKA 2B21] is ruggedized (GE, HY, RCA, SY) {R612G} (8-23-46). "W" is ruggedized further.

2Y2 HV rectifier sim. to 2X2, octal, heater 2.5 V @ 1.75 A, 4.4 kV in, 5 mA (NU) (12-5-38) <4P>.

2Y3, 2Y4 "Canadian type."

2Z2 [AKA G84]; diode rectifier, fil. 2.5 V @ 1.5 A, 350 V applied, 50 mA (Maj., NU) <4B>.

3A4 [AKA DL93]; min. power pentode, fil. 2.8 VCT @ 100 mA, g_m 1.9 mS, 2 W (5-9-42) <7BB>. Variant: 1662.

3A5 [AKA DCC90]; min. dual HF power triode, fil. 2.8 VCT @ 110 mA, μ 15, 2 W total (RCA, SY) (5-9-42) <7BC>.

3A8GT [AKA VT-149]; diode-triode-pentode, octal w/ cap, fil. 2.8 VCT @ 50 mA, equals 1H5 + 1N5 (TS) (8-21-39) <8AS>.

3B4, WA [AKA DL98]; min. VHF power tube, fil. 2.5 VCT @ 165 mA, g_m 4.3 mS, 2.7 W (HY) {HD30} (4-30-48) <7CY>. Final amp. in AN/PRC-6.

3B5GT Beam power tube, fil. 2.8 VCT @ 50 mA, g_m 1.5 mS, for 67½-V B+, 200 mW out (TS) (4-22-41) <7AO>.

3B7, Spl [AKA 1291, VT-182, CV228]; loktal UHF power duotriode, fil. 2.8 VCT @ 50 mA, μ 20, 5.4 W total, repl. 1292 (2-1-43) <7BE>. "Special" is selected. Variants: 1288, 1291.

3C4 [AKA DL96]; min. power pentode, fil. 2.8 VCT @ 50 mA, g_m 1.25 mA, replaceable by 3V4 (HY) (10-6-51) <6BX>.

3C5GT Beam power tube, fil. 2.8 VCT @ 50 mA, g_m 1.55 ma, 260 mW out (6-6-39) <7AQ>.

3C6 [AKA XXB]; loktal duotriode, fil. 2.8 VCT @ 50 mA, μ 14.5 (11-30-44) <7BW>.

3D6 [AKA 1299, VT-185, CV187]; loktal beam power tube., fil. 2.8 VCT @ 110 mA, 4.5 W, usable to 50 MHz (SY) (2-1-43) <6BA>.

3E5 Min. beam power tube, fil. 2.8 VCT @ 25 mA, g_m 1.3 mS, 175 mW out (HY, TS) (2-5-50) <6BX>.

3E6 Loktal sharp cut-off pentode, fil. 2.8 VCT @ 50 mA, g_m 2 mS (SY, TS, W) (2-18-46) <7CJ>.

3LE4 Loktal beam power tube, fil. 2.8 VCT @ 50 mA, g_m 1.6 mS, 300 mW out (SY) (7-18-40) <6BA>.

3LF4 [AKA VT-180, CV187]; loktal beam power tube, loktal 3Q5 (SY) (10-22-41) <6BB>.

3Q4 [AKA VT-264, CV182, DL95]; min. power pentode, min. 3Q5 (4-1-41) <7BA>.

3Q5GT/G [AKA VT-221, CV185]; beam power tube, fil. 2.8 VCT @ 50 mA, g_m 2.2 mS, 270 mW out (SY) (6-30-39) <7AP>.

3S4 [AKA VT-174, CV183, DL92]; min. power pentode based on 3Q5 - or 1S4 w/ dual fil. - fil. 2.8 VCT @ 50 mA, g_m 1.6 mS, 270 mW out (11-22-40).

3V4 [AKA DL94]; power pentode, 3Q4 w/ pinout scrambled (SY) (10-25-45) <7BA>.

4A6G Power duotriode, for Class B use, fil. 4.0 VCT @ 60 mA, μ 20, 1 W out (NU) (5-2-38) <8L>.

5A6 Min. 9-pin xmtg beam power tube, fil. 5.0 VCT @ 230 mA, 5 W, 100 MHz (HY, SY, TS) {DT275} (4-11-49) <9L>.

5AR4 [AKA GZ34]; full-wave rectifier, T11 bulb, heater 5.0 V @ 1.9 A, 1.7 kV PIV, 130 mA (SY) (1-16-56) <5L>.

5AS4, A Full-wave rectifier, variant of 5U4GB in ST-16 bulb (GE, SY) (1-3-55). "A" has T12 bulb.

5AT4 Full-wave cathode-type rectifier, T16 bulb on octal base, heater 5.0 V @ 5.5 A, 1.55 kV PIV, 800 mA (SY, TS) (2-16-61) <5L>.

5AU4 Full-wave rectifier, T12 bulb, fil. 5.0 V @ 3.75 A, 1.4 kV PIV, 200 mA (GE, SY) (4-16-54) <5T>.

5AZ4 Full-wave rectifier, loktal 5Y3GT (GE, SY) (11-25-46) <5T>.

5R4GY, GYA, GYB Full-wave rectifier, ST-16 bulb on Micanol octal base, fil. 5.0 V @ 2.0 A, high PIV at high altitude (RCA) {R6175B} (9-10-42) <5T>. PIV is graded: 2.8 kV @ 150 mA, or 2.4 kV @ 175 mA, or 2.1 kV @ 250 mA. "WGY" is ruggedized "GY" w/ conventional base. "GYA" (5-2-55) has T12 bulb, is uprated to 2.8 kV @ 165 mA. "GYB" ((3-16-59) is uprated to 3.1 kV (@ 20,000 ft.). "WGA" is ruggedized w/ T14 hard-glass bulb and skirt base. "WGB" is ruggedized "GYA" w/ hard glass, shock-isolated skirt base, and special processing. Common in 1943-56 military equipment but largely unknown to radio restorers; where the large bulb will fit, makes a long-lived replacement for 5Y3G.

5T4 [AKA VT-114, CV276]; full-wave rectifier, 5U4G ratings (RCA) {R6022} (2-4-37) <5T>.

5U4G, GA, GB, WG [AKA VT-244, CV276]; full-wave rectifier, octal 5Z3, fil. 5.0 V @ 3.0 A, 1.55 kV PIV, 225 mA, sim. to Br. VU71 (RCA, TF) (7-27-36) <5T>. "WG" is ruggedized "G." "GA" (4-23-54) has T11 bulb and is uprated to 250 mA; "GB" (4-30-54, only a week after "GA") has T12 bulb w/ button stem and radiating fins on plate; is uprated to 275 mA. Variant: 5931.

5V4G, GA, GY [AKA VT-206A, CV729]; full-wave cathode-type rectifier, octal 83-V, ST14 bulb, heater 5.0 V @ 2.0 A, 1.54 kV PIV, 175 mA (RCA) {R6030} (4-28-36) <5L>. "GA" (4-16-54) has T12 bulb.

5W4, GT/G [AKA VT-97, CV1849]; metal full-wave rectifier, fil. 5.0 V @ 1.5 A, 1.4 kV PIV, 100 mA (RCA) {R6009} (5-1-36) <5T>. "GT/G" (6-13-40) is in T9 bulb.

5X3 Full-wave rectifier, fil. 5.0 V @ 2.0 A, 1275 V in, 30 mA, called a "TV" type (AS) (12-15-38) <4C>.

5X4G, GA Full-wave rectifier, 5U4G w/ pinout scrambled, reportedly to prevent substitution of a (lower-rated) 5Y3. Common in (unique to?) '30s Philcos (RCA) {A6031} (5-26-36) <5Q>.

5Y3, G, GT/G, WGT, WGTA, WGTB [AKA VT-197A, CV1268]; full-wave rectifier, octal 80, fil. 5.0 V @ 2.0 A, 1.4 kV PIV, 125 mA (6-2-41) <5T>. "GT/G" is in T9 bulb; "WGT" and "WGTA" are ruggedized; "WGTB" is "WGTA" tested with added parameters. A "5Y3" (6-6-35) may have been intended as a metal version; actual production unknown. Variants: 6004, 6087, 6106, 6853.

5Y4GT/G, GA Full-wave rectifier, 5Y3GT/G w/ pinout scrambled: fil. on pins 7 & 8 (5-26-36) <5Q>. "GA" is in T12 bulb (SY, TS) (6-11-54).

5Z3 [AKA VT-145, CV275]; full-wave rectifier, ST16 bulb, 4-pin 5U4G (RCA) {R626} <4C>. Variant: 1275.

5Z4, GT/G [AKA VT-74, CV1864] (RCA) {R6008, ZP-315} (5-7-35) <5L>; full-wave cathode-type rectifier, 5Y3 ratings First member of GE-RCA "original nine" metal-octal line. "GT/G" (9-27-40) is in T9 bulb.

6A3, Spl Power triode, 2A3 w/ fil. 6.3 V @ 1.0 A (5-10-35). "Spl" [AKA FNH] is special 6A3, not further identified.

6A4 [AKA LA, KR-5]; fil.-type power pentode for car radios sim. to 52, fil. 6.3 V @ 300 mA, g_m 2.2 mS, 1.4 W out. Introduced by AS as type LA; RCA dev. no. {A468} <5K>.

6A5G Power triode, octal 6B4, cathode connected to center of heater (1-5-37).

6A6, X [AKA 38616]; duotriode, 6-V variant of 53 (6N7 char.) (RCA) {A493} (8-14-34) <6T>.

6A7, M, S Pentagrid conv., ST12 bulb w/ cap, 6-V variant of 2A7, heater 6.3 V @ 300 mA, conversion g_m 0.36-0.55 mS (RCA) {A506} (11-22-34) <7C>. "M" (Rogers) and "S" (Maj.) have spray-shield.

6A8, G, GT, GTX Pentagrid conv., metal 6A7, sim. to 6D8G (GE, RCA) {ZP-310, A5500} (8-15-35) <8A>. "G" [AKA VT-151, CV16] is in ST12 bulb (RCA) {A5505} (6-6-35); regis. actually issued earlier than metal 6A8. "GT" [AKA VT-151B, CV580] is in T9 bulb (3-11-38). "GTX" has ceramic base.

6AB4 [AKA EC92]; min. high-μ RF triode, for G-G amps., heater 6.3 V @ 300 mA, μ 62 (SY) (4-25-49) <5CE>. Variant: 6664.

6AB5 [AKA 6N5]; electron-ray tuning ind., heater 6.3 V @ 150 mA, sim. to 6E5 and 6U5/6G5 (4-19-37).

6AB6G Direct-coupled duotriode, heater 6.3 V @ 500 mA, g_m 1.8 mS, 3.5 W out (SY) (12-28-36) <7AU>.

6AB7 [AKA 1853, VT-176, CV66]; "television" pentode; remote-cutoff version of 6AC7, heater 6.3 V @ 450 mA, g_m 5 mS (3-18-39) <8N>. "Y (3-18-39 has Micanol base.

6AB8 [AKA ECL80}; min. 9-pin triode-pentode, heater 6.3 V @ 300 mA, triode μ 18, pentode g_m 3.4 mS (HY) (2-15-51) <9AT>.

6AC5GT/G High-μ power triode for direct coupling from

6AE5, 6P5, or 37 driver, heater 6.3 V @ 400 mA, μ 58 (RCA) {A2058} (9-29-37) <6Q>.

6AC6G, GT Direct-coupled duotriode, heater 6.3 V @ 1.3 A, μ 54, g_m 3.0 mS, 3.6 W out (SY) (1-8-37) <7W>.

6AC7, A, W, Y [AKA 1852, VT-112, REL39, CV660]; sharp-cut-off metal "television" pentode, IF and video amp. for radar and TV; heater 6.3 V @ 450 mA, g_m 9.0 mS (3-18-39) <8N>. Variant: 1617. "A" is early ruggedized version; "W" (RCA) {A4073F} is later. Variants: 6AB7, 6AJ7, 1649, 6134.

6AD4 [AKA 5898]; T3 submin. triode, heater 6.3 V @ 150 mA, μ 70, 330 mW (SY) {SN980D} (8-8-49) <8DK>. Variant: 5719.

6AD5G, GT Triode sim. to 6F5, heater 6.3 V @ 300 mA, μ 100, called a "TV" type (AS, SY) (12-15-38) <6Q>.

6AD6G Dual electron-ray tuning indicator, to be driven by 6AE6, replaceable by 6AF6G (NU, TS) (5-26-38) <7AG>.

6AD7G Low-μ triode - power pentode w/ common cathode; heater 6.3 V @ 850 mA, triode μ 6, pentode equals 6F6G (4-1-40) <8AY>. In (unique to?) Zenith 7S598 and 7S681, 1941. Should directly replace 6F6G by cutting off pins 1 and 6!

6AD8 [AKA EBF89, 6DC8]; min. 9-pin duodiode-pentode, heater 6.3 V @ 300 ma, g_m 1.1 mS (HY) (5-28-51) <9HE>.

6AE5GT/G Triode, driver for 6AC5, heater 6.3 V @ 300 mS, μ 4.2 (TS) (10-18-38) <6Q>.

6AE6G Single-grid twin-plate triode to drive 6AD6; plates have remote- and sharp-cutoff char., heater 6.3 V @ 150 mA, μs 25 and 33 (NU, TS) (6-14-38) <7AH>.

6AE7GT Twin-grid triode; two grids and cathodes, one plate; heater 6.3 V @ 500 mA (RCA) (5-9-40) <7AX>. In (unique to?) Zenith 12S550, 1941.

6AE8 Min. 9-pin triode-hexode conv., heater 6.3 V @ 300 mA (HY) (11-21-50) <8DU>.

6AF5G Triode sim. to 6P5GT, heater 6.3 V @ 300 mA, μ 7.4 (SY) (4-11-39) <6Q>. In (unique to?) Zenith 7S487, 8S432, etc., 1941.

6AF6G Twin electron-ray tuning indicator, like shortened 6AD6G; heater 6.3 V @ 150 mA (RCA, SY) (6-7-38) <7AG>.

6AF7G Twin electron-ray tuning indicator (French), heater 6.3 V @ 200 mA (4-17-39) <8AG>.

6AG5, /S, WA Min. VHF pentode, sim. to 6AK5, based on 6SH7, heater 6.3 V @ 300 ma, g_m 5.0 mS (RCA) (9-10-42) <7BD>. Variant: 6186. "/S" is selected for high g_m for TV use (SY).

6AG6G [AKA EL33}; power pentode sim. to scaled-up 6V6G, heater 6.3 V @ 1.25 A, g_m 9 mS, 5 W out (Brimar) (11-10-38) <7AC>.

6AG7, W, Y [AKA VT-247, CV207]; metal power/video pentode, scaled-up 6AC7, heater 6.3 V @ 650 mA, g_m 11 mS, 9.0 W (5-24-39) <8Y>. "W" and "Y" are ruggedized and Micanol-based respectively. Variant: 6AK7.

6AH5G Beam power tube, heater 6.3 V @ 900 mA, g_m 5.2 mS, 11 W out (SY) (1-9-42) <6AP>.

6AH6 Min. sharp-cutoff RF pentode and gate tube, suppressor wired out for control use, heater 6.3 V @ 450 mA, g_m 9.0 mS (RA) (12-5-46) <7BK>. Variant: 6485.

6AH7GT Duotriode, octal, heater 6.3 V @ 300 mA, μ 16, 1.5 W (2-5-41) <8BE>. Variant: 12AH7GT.

6AJ4 Min. 9-pin UHF triode, for G-G amps., 225 mA, μ 42, 2 W (GE, HY) {Z2103} (3-5-42) <9BX>.

6AJ5 Pentode, 6AK5 optimized for 28-V plate supply, g_m 2.75 mS (SY, WE) (7-5-44) <7BD>. Variant: 7755.

6AJ6 Tetrode, heater 6.3 V @ 450 mA; rumored to be quick-heating, possibly beam type, used in WW II lifeboat xmtr.; known samples were made for U. S. Navy in 1944.

6AJ7 Pentode, 6AC7 w/ ring contact for direct grounding of shell, w/ specified cutoff action via suppressor grid (Can.) (1-25-44) <8N>.

6AJ8 [AKA ECH81]; min. 9-pin triode-heptode conv., heater 6.3 V @ 300 mA (HY) (6-27-52) <9CA>.

6AK4 T3 UHF submin. triode, 6.3 V @ 0.225 A, μ 20, 3.3 W (SY) (3-17-52) <8DK>.

6AK5, W [AKA (WE) 403A, (WE) 731A, EF95, M8180, DP61]; min. sharp-cutoff VHF pentode, heater 6.3 V @ 175 mA, g_m 4.3-5.1 mS (WE) (5-27-43) <7BD>. "W" is ruggedized. Variants: 5591, 5654, 5656, 5702, 6028, 6096, 6968.

6AK6 Power pentode, min. 6G6G, 2.75 W (RCA) {A4361} (8-27-43) <7BK>.

6AK7 Pentode, 6AG7 w/ grounding ring (2-8-44) <8Y>. Also see 6AJ7.

6AK8 [AKA EABC80]; min. 9-pin triple diode - triode, one diode on own cath., heater 6.3 V @ 450 mA, μ 70, replaceable by 6T8 (HY) (6-7-52) <9E>.

6AL5, W [AKA D27, EAA91, EB91]; min. duodiode, heater 6.3 V @ 300 mA (RCA) {R6269} (8-11-44) <6BT>. "W" is ruggedized . Variants: 5704, 5726, 5829, 6058, 6097, 6663, 6887, 7055, 7631.

6AL6G Beam power tube, 6L6G w/ plate cap; sweep amp. in prewar GE TV (RA, SY) (8-21-39) <6AM>.

6AL7GT Twin electron-ray indicator, T9 bulb on octal base, heater 6.3 V @ 150 mA (SY) (6-20-46) <8CH>.

6AM5 [AKA EL91]; min. power pentode, heater 6.3 V @ 200 mA, g_m 2.6 mS, 1.4 W out (1-28-49) <7BD>.

6AM6 [AKA EF91]; min. power pentode, heater 6.3 V @ 300 mA, g_m 7.5 mS (1-28-49) <7BD>. Variants: 6064, 6516.

6AN4 Min. UHF triode, for G-G amps., heater 6.3 V @ 225 mA, μ 70 (RCA) {R1553D} (5-27-52) <7DK>. Variants: 7738, 1218A/8334.

6AN5 [AKA CK612]; pentode, min. 6AG7, for video and computer use - "first" type processed for low in-

terface resistance (RA) (11-10-48) <7BD>.

6AN6 Quadruple diode, common cathode, heater 6.3 V @ 200 mA, 117 v in, 3 mA per plate (HY, SY, T) (8-12-46) <7BJ>.

6AN7 Min. 9-pin triode-hexode conv., heater 6.3 V @ 300 mA (HY) (4-29-49) <9Q>.

6AN8, A Min. 9-pin triode-pentode, heater 6.3 V @ 450 mA, triode μ 19, pentode g_m 7.8 mS (SY) (1-15-54) <9DA>. Variants: 7258, 8489.

6AQ4 [AKA EC91]; min. UHF triode, for G-G amps., heater 6.3 V @ 300 mA, μ 100 (HY) (3-20-53) <7DT>.

6AQ5, A, W [AKA EL90]; min. beam power tube; based on 6V6GT/G derated from 14W to 12 W (RCA) {A4450} (2-14-46) <7BZ>. Variants: 6005, 6094, 6095, 6669, 6928. "A" has controlled warm-up time.

6AQ6 [AKA D28]; min. duodiode-triode, 150 mA, based on 6T7G; min. 6SZ7 (RCA) {A4375A} (4-29-44) <6BT>.

6AQ7GT Duo-diode - high-μ triode; for FM det. use; diodes have own cathode; heater 6.3 V @ 300 mS, μ 70 (6-20-46) <8CK>.

6AQ8 [AKA ECC85]; min. 9-pin duotriode, heater 6.3 V @ 435 mA, μ 57, g_m 5.7 mS (SY) (8-15-55) <9AJ>.

6AR5 Min. power pentode based on 6K6, heater 6.3 V @ 400 mA, g_m 2.4 mS, 3.2 W out (8-8-47) <6CC>.

6AR6 Power tetrode, radar-scope sweep amp., T11 bulb, octal base, heater 6.3 V @ 1.2 A, 21 W when forced-air cooled; designed by Bell Labs and made by TS et al. (8-10-45) <6BQ>. Variants: 6098, 6384, 7756.

6AR7GT Duodiode-pentode (Aust.), typically used in reflex IF-AF stages (8-15-49) <7DE>.

6AR8 Min. 9-pin beam-deflection tube, sheet-beam balanced modulator, heater 6.3 V @ 300 mA (TS) (4-16-54) <9DP>. Also see 7360, 6JH8, 6ME8.

6AR11 Compactron duopentode, dual TV IF amp., heater 6.3 V @ 800 mA, g_m 10.5 mS (SY) (12-4-61) <12DM>.

6AS5 Min. beam power tube based on 7A5, heater 6.3 V @ 800 mA (2-16-48) <7CV>.

6AS6, W [AKA (WE) 409A]; min. VHF pentode, w/ suppressor brought out for use as gate electrode in phantastron dividers, etc., heater 6.3 V @ 175 mA, g_m 1.9-3.2 mS (WE) (3-3-47) <7CM>. Variants: 5725, 5784, 5916, 6187, 6486, 7752.

6AS7G, GA, GYB Dual low-μ power triode originally intended for TV use but usually found as "pass" tube in voltage regulators, heater 6.3 V @ 2.5 A, μ 2.0, 26 W total (RCA, SV) {A1834 (1-10-46) <8BD>. "GA" is in T12 bulb (RCA) {A4475} (7-11-55). Variants: 5998, 6080, 6082, 6520, 7105.

6AS8 Min. 9-pin diode - sharp-cutoff pentode, heater 6.3 V @ 450 mA, g_m 6.2 mS (HY, SY) (2-19-54) <9DS>.

6AT6 [AKA EBC90]; min. duodiode-triode based on 6Q7 (SY) (10-25-46) <7BT>. Variant: 6066.

6AT8, A Min. med.-μ triode - sharp-cutoff pentode based on 6X8, for VHF converters (SY) (6-11-54) <9DW>.

6AU5GT Beam tetrode, heater 6.3 V @ 1.25 A, 10 W, special pinout (RCA) (10-21-49) <6CK>.

6AU6, A Min. sharp-cutoff power/video pentode based on 6SH7 (10-25-45) <7BK>. Variants: 6136, 7543, 8425.

6AU8, A Min. 9-pin med.-μ triode - sharp-cutoff video pentode, heater 6.3 V @ 600 mS, triode μ 40, pentode g_m 8 mS (SY) (11-15-54) <9DX>. Variant: 7060.

6AV4 [AKA EZ91]; min. duodiode, heater 6.3 V @ 950 mA, 1250 V PIV, 90 mA; uprated 6X4 (HY) (10-10-52) <5BS>.

6AV6 [AKA EBC91]; min. duodiode - high-μ triode based on 6Q7 (3-8-47) <7BT>.

6AW7GT Duodiode-triode, heater 6.3 V @ 300 mA, μ 8.0 mS (SY) (11-15-48) <8CQ>.

6AW8, A [AKA 2081]; min. 9-pin triode - video pentode, heater 6.3 V @ 600 mA, triode μ 70, pentode g_m 9.5 mS (SY) (7-16-54) <9DX>. "A" differs in curve-knee characteristics.

6AX5GT Full-wave rectifier, heater 6.3 V @ 1.2 A, 1250 V PIV, 125 mA (RCA) {R6272A} (1-9-50) <6S>.

6AX7 Min. duotriode, 12AX7 w/ heater 6.3 VCT @ 300 mA (SY) (6-11-54) <9A>.

6AY11 Compactron duodiode-duotriode, heater 6.3 V @ 690 mA, μ 100 - equals 12AX7 and two diodes (GE) (6-18-62) <12DA>.

6AZ5 T3 submin. duodiode, heater 6.3 V @ 150 mA, 420 V PIV, 8 mA (GE, SY) (4-9-51) <8DF>.

6AZ6 T3 submin. duodiode, heater 6.3 V @ 150 mA, 450 V PIV, 20 mA (GE) (5-4-51) <8EH>.

6B4G Power triode, octal 6A3 (TS) (5-26-36) <5S>.

6B5 Direct-coupled duotriode, 6N6 char. (TS) (1-29-35) <6D>. Base diagram from 1938 (TS) is labeled "6Db"; shows a built-in cathode resistor on the input triode.

6B6, G, M Direct-coupled power duotriode, 6.3-V 2B6 (JB) <7J>. "G" and "M" involve an apparent duplication of numbers on an entirely different tube: "G" is a duodiode-triode, octal 75, sim. to 6T7G and replaceable by 6Q7G (GE, RCA) (-17-35) <7V>. "M" is Rogers "metal-spray" 6B6G.

6B7, S [AKA 10E/340, VT162 (Br.), VT-68, CV1891]; duodiode-pentode, heater 6.3 V @ 300 mA, g_m 1.3 mS, 2B7 and 6B8 char. (RCA) {A558} <7D>. "S" has spray-shield.

6B8, G, GT [AKA VT-93, CV1894]; duodiode-pentode, metal 6B7 (RCA) {A521} (6-15-36) <8E>. "G" [AKA VT-93A, CV1893, q. v.] has ST12 bulb (7-17-36).

"GT" has T9 bulb (5-22-40).

6BA4 "Rocket" disc-seal low-noise SHF triode, 2E36 format (q. v.), for UHF TV preamp use, heater 6.3 V @ 400 mA (SY) (9-4-53).

6BA5 T3 submin. pentode, heater 6.3 V @ 150 mA (SY) (8-8-49). Per SY in 1951, 6BA5 "old" is an RF amplifier, g_m 3.3 mS, with unique pinout; 6BA5 "new" is an AF amplifier, g_m 2.15 mS, w/ different capacitance values and slightly changed pinout <8DY>.

6BA6, W Pentode, min. 6SG7; effectively a remote-cutoff 6AU6; heater 6.3 V @ 300 mA, g_m 4.7 mS (10-25-45) <7BK>. Variants: 5749, 6660.

6BA7 Min. pentode conv. based on 6SB7, intended for FM use (SY) (6-9-48) <8CT>.

6BC4 Min. 9-pin med-μ UHF triode, heater 6.3 V @ 225 mA, μ 48 (HY, SY) (4-9-54) <9DR>.

6BC5 Min. pentode, 6AG5 w/ higher g_m of 6.1 mS (SY) (6-8-49) <7BD>.

6BC7 Min. 9-pin triple diode, heater 6.3 V @ 450 mA (HY, SY) (2-14-50) <9AX>.

6BD6 Min. remote-cutoff RF pentode, min. 6K7 (SY) (5-15-46) <7BK>.

6BD7, A [AKA EBC81]; min. 9-pin duodiode-triode, heater 6.3 V @ 230 mA, μ 70 (3-15-50) <9Z>.

6BE6 Min. pentagrid conv., min. 6SA7 (SY) (10-25-45) <7CH>. Variants: 5750, 5915, 7036.

6BE7 [AKA EQ80]; min. 9-pin heptode conv., heater 6.3 V @ 200 mA (HY) (3-15-50) <9AA>.

6BF5 Min. power pentode, heater 6.3 V @ 1.2 A, 5.5 W (SY) (2-14-50) <7BZ>.

6BF6 Min. duodiode-triode, min. 6SR7 (RCA, SY) {A4442} (6-28-46) <7BT>.

6BF7, A, W T3 submin. flat-press VHF med.-μ power duotriode; heater 6.3 V @ 300 mA, individual cathode leads; μ 35, g_m 4.8 mS, 2.0 W total (SY) (4-3-50) <8DG>. "W" is ruggedized." Variant: 6021.

6BG7 T3 submin. med.-μ duotriode, heater 6.3 V @ 300 mA, μ 35 (GE) (4-3-50) <8DG>.

6BH5 [AKA EF81]; min. 9-pin variable-μ remote-cutoff pentode (5-28-51) <9AZ>.

6BH6 Min. sharp-cutoff RF-IF pentode, heater 6.3 V @ 150 mA (RCA) {A4524A} (11-15-47) <7CM>. Variants: 6065, 6265, 6661, 7693.

6BJ5 Min. power pentode, heater 6.3 V @ 640 mA, g_m 10.5 mS, 9.9 W (HY, SY) (11-21-50) <6CH>.

6BJ6, A Min. pentode, heater 6.3 V @ 150 mA, based on 6SS7 (SY) (12-10-46) <7CM>. Variants: 6662, 7694.

6BJ7 Min. 9-pin triple-diode, heater 6.3 V @ 450 mA, 330 V PIV, 1.0 mA (HY, SY) (2-5-54) <9AX>.

6BK6 Min. duodiode-triode, heater 6.3 V @ 300 mA, μ 100 (TS) (1-17-50) <7BT>.

6BK7, A, B Min. VHF duotriode based on 12AV7, heater 6.3 V @ 450 mA, μ 43 (SY) (8-10-51) <9AJ>.

6BL6 Reflex klystron, 1.4-6.5 GHz, EC, heater 6.3 V @ 750 mA, 325 V, 250 mW out (RA, SY) {SD-835H} (10-5-46). Variants: 6BM6, 5836, 5837.

6BL8 [AKA ECF80]; min. triode-pentode, heater 6.3 V @ 450 mA, triode μ 20, pentode g_m 6.2 mS (RCA, SY) (9-4-56) <9DC>. Variant: 7643.

6BM5 [AKA 6P9]; min. power pentode, heater 6.3 V @ 450 mA, g_m 7.0 mS, 3.5 W out (HY) (6-30-52) <7BZ>.

6BM6, A Reflex klystron, 0.55-3.8 GHz, EC, 3-pin min. base, swaged rings to match cavity, heater 6.3 V @ 650 mA, 325 V, 175 mW CW out (BX, LI, RA, SFR, SY) {SD835K} (10-4-48). Variant: 5837.

6BM8 [AKA ECL82]; min. 9-pin triode-pentode, heater 6.3 V @ 780 mA, triode μ 70, pentode g_m 6.4 mS, 3.5 W out (GE, SV, SY) <9EX>.

6BN6 Min. gated-beam FM detector, heater 6.3 V @ 300 mA (SY) (9-26-49) <7DF>.

6BQ5 [AKA EL84]; min. 9-pin audio non-beam power pentode, heater 6.3 V @ 760 mA, g_m 11.3 mS, 12 W (SY) (7-9-56) <9CV>. Variants: 7189, 7320.

6BQ7, A Min. VHF duotriode, 6 V @ 400 mA, μ 38, g_m 6.4 mS, interchanges with 6BZ7 and 6DJ8 (SY) (8-11-50) <9AJ>. Variant: 7062.

6BR7 Min. sharp-cutoff RF pentode based on 6J7, heater 6.3 V @ 150 mA, g_m 0.9 mS (HY) (10-25-51) <9BC>. Variant: 6059.

6BS5 Min. 9-pin beam pentode, heater 6.3 V @ 750 mA, g_m 7.0 mS, 4.5 W out (HY) (10-30-53).

6BT6 Min. duo-diode - high-μ triode, heater 6.3 V @ 300 mA, μ 70 (SY) (1-17-50) <7BT>.

6BU6 Min. duo-diode - low-μ triode, heater 6.3 V @ 300 mA, μ 16.5 (HY) (1-17-50) <7BT>.

6BV7 Min. 9-pin duodiode - power pentode, heater 6.3 V @ 800 mA, g_m 8.0 mS, 2.0 W out (HY) (8-27-51) <9BU>.

6BW4 Min. 9-pin full-wave rectifier, heater 6.3 V @ 900 mA, 900 V in, 100 mA (HY, SY) (7-11-55) <9DJ>.

6BW6 Min. 9-pin beam power tube based on 6V6, beam plates wired out separately, heater 6.3 V @ 450 mA, 12 W (GE) (4-17-50) <9AM>. Variant: 6061.

6BW7 Min. 9-pin sharp-cutoff RF pentode, heater 6.3 V @ 150 mA, g_m 9.0 mS (HY) (7-10-53).

6BX4 Min. full-wave rectifier, heater 600 mA, 1350 V PIV, 90 mA out (HY) (10-30-53) <5BS>.

6BX6 [AKA EF80]; min. 9-pin sharp-cutoff RF pentode, heater 6.3 V @ 300 mA, g_m 7.2 mS, 2.75 W (HY, SY) (2-15-51) <9AQ>.

6BY4 Cermet UHF triode, 5/16" dia. by 3/8" high, for UHF TV preamps, heater 6.3 V @ 200 mA, μ 100, g_m 6 mS, NF 8 dB @ 900 MHz (GE) (10-17-55).

6BZ7 Min. 9-pin VHF med.-μ duotriode, 6 V @ 400 mA, based on 6BQ7, μ 36; interchanges with 6BQ7A (SY) (8-22-52) <9AJ>. Variant: 7057.

6C4, W Min. VHF med.-μ power triode based on 6J5, heater 6.3 V @ 150 mA, μ 17, 3.5 W (originally 5 W) (RCA, SY) (5-9-42) <6BG>. Variants: 6100, 6135.

6C5, G, GT/G [AKA VT-65, CV582]; metal triode; contains a set of 6J7 pentode elements internally triode-connected (!); heater 6.3 V @ 300 mA, μ 20 (RCA) {A2021} (8-15-35) <6Q>. "G" [AKA VT-65A, Br. CV581, NR78] is in ST12 bulb (RCA) {A2040} (6-6-35). "GT/G" is in T9 bulb.

6C6 [AKA 38636, 10E/337, VT161 (Br.)]; pentode, ST12 bulb w/ cap on 6-pin base, 6J7 char. (RCA) {A478A} <6F>. Variant: 1221.

6C7 Duodiode-triode, spray-shielded 85A, sim. to 6R7 (Maj., NU, RCA, TS) <7G>.

6C8G [AKA VT-163, CV1896]; duotriode, ST12 bulb w/ cap, heater 6.3 V @ 300 mA, μ 36 (1-21-37) <8G>.

6C10 Compactron triple-triode, heater 6.3 V @ 400 mA, equals 1-½ 12AX7s (GE, SY) (8-1-60) <12BQ>. Variant: 7689.

6CA4 [AKA EZ81]; min. 9-pin full-wave rectifier, heater 6.3 V @ 1.0 A, 1 kV PIV, 150 mA (SY) (8-27-56) <9M>.

6CA7 [AKA EL34]; octal power pentode (SY: "beam pentode"), tubular bulb, heater 6.3 V @ 1.5 A, g_m 11 mS (MU, SV, SY) (12-12-52) <8ET>.

6CB6, A Min. pentode, for TV IF amps., heater 6.3 V @ 300 mA, g_m 6.2 mS (SY) (10-21-49) <7CM>. "A" has g_m raised to 8 mS. Variants: 6676, 7056, 7732.

6CG6 Min. remote-cutoff pentode, heater 6.3 V @ 300 mA, g_m 2.0 mS (HY) (10-10-50) <7BK>.

6CH6 [AKA EL821]; min. 9-pin RF/video pentode, heater 6.3 V @ 750 mA, g_m 11.0 mS (HY) (4-18-51) <9BA>. Variants: 6132, 7499.

6CJ6 [AKA EL81]; min. 9-pin pentode, audio or horiz. sweep, heater 6.3 V @ 1.05 A, g_m 4.6 mS (HY) (10-16-51) <9AS>.

6CK6 [AKA EL83]; min. 9-pin RF/video pentode, heater 6.3 V @ 710 mA, g_m 10.0 mS (HY) (10-16-51) <9AR>.

6CL6 Min. 9-pin RF/video pentode, heater 6.3 V @ 650 mA, g_m 11 mS, 7.5 W (RCA, SY) (6-18-52) <9BV>. Variants: 6197, 6297, 6677.

6CM6 Beam power tube, min. 9-pin 6V6GT (GE) (10-9-53) <9CK>.

6CQ6 [AKA EF92]; min. variable-μ pentode, heater 6.3 V @ 200 mA, g_m 2.5 mS (HY) (3-20-53) <7DR>.

6CW4 Nuvistor high-μ VHF triode, for G-G amps., heater 6.3 V @ 130 mA, μ 62, g_m 9.8 mS, 1.5 W (RCA) (7-4-60) <12AQ>. Gave NF of 5.5 dB at Ch. 13 in RCA KRK-90A TV tuner, or about 1 dB better than the 6GK5, 1961's best conventional tube. Variants: 2CW4, 6DS4, 13CW4.

6CW5 Min. 9-pin power pentode, heater 6.3 V @ 760 mA, 12 W (GE, SY) (7-9-56) <9CV>.

6CY5 Min. sharp-cutoff RF tetrode, heater 6.3 V @ 200 mA, g_m 8 mS (SY) (9-10-56) <7EW>. Variants: 7167, 7717.

6CZ5 Min. beam power tube, heater 6.3 V @ 450 mA, 11 W (SY) (11-5-56) <9HN>. Variant: 6973.

6D4 [AKA VC17]; min. argon triode thyratron, heater 6.3 V @ 250 mA, 320 V PIV, 25 mA, usable for usual thyratron functions but best known as an RF noise generator; w/ tube diode-connected and mounted inside a magnet, noise spectrum peaks at 500 kHz and is still strong at 1 MHz (HY, SY, TS) (3-10-44) <5AY>.

6D5, G Metal power triode, announced 1935 by RCA and SY, but not made in qty.; heater 6.3 V @ 700 mA, μ 4.7 (NU) (5-6-41). "G" is glass variant (6-6-35); neither is used in any known radio.

6D6 [AKA 38646, VT-69, (Br.) VT160, CV1900]; pentode, heater 6.3 V @ 300 mA, g_m 1.6 mS (58 and 6U7 char.) (RCA) {A479A} <6F>.

6D7 Pentode, spray-shielded 6C6 on 7-pin base (Maj., NU) <7H>.

6D8G [AKA VR57 (Br.)]; pentagrid conv., 150-mA version of 6A8G (RCA) {A5517} <8A>. "G" is in ST12 bulb.

6DB6 Min. sharp-cutoff RF pentode, heater 6.3 V @ 300 mA, g_m 2.1 mS (HY, SY) (2-26-54) <7CM>.

6DC6 Min. semi-remote-cutoff RF-IF pentode, heater 6.3 V @ 300 mA, g_m 5.5 mS (SY) (3-12-54) <7CM>, intended for TV IFs but used more in comm. gear. Hard to find today; "hotter" substitutes include 6BZ6, 6CB6, 6CF6, 6DE6; lower-g_m substitutes include 6BH6, 6BJ6, 6JF6.

6DG6GT [AKA 6W6GT, q. v.]; beam power tube (4-25-55).

6DJ8 [AKA ECC88]; min. 9-pin VHF duotriode, designed for TV tuners but better known as audio preamp, heater 6.3 V @ 365 mA, μ 33, g_m 12.5 mS (SY) (5-12-58) <9AJ>. Very sim. to 6BQ7A despite difference in g_m, and officially replaceable by it in Tektronix 502 and 545 scopes. Variants: 6922, 7308.

6DL4 Min. high-μ triode, heater 6.3 V @ 165 mA, μ 65, 2.0 W (GE) (1-17-66) <9NY>. Variant: 8255.

6DS4 Nuvistor vari-μ triode, variant of 6CW4 w/ extended cutoff, for G-G amps., heater 6.3 V @ 135 mA, μ 63, g_m 9.0 mS (GE, RCA) (8-21-61) <12AQ>. Variant: 2DS4.

6DV4 Nuvistor med.-μ triode, UHF osc., gold-plated shell and pins for stability, heater 6.3 V @ 135 mA, μ 35, 1 W, usable to 950 MHz (GE, RCA) {A15239G} (9-10-62) <12EA>. Variant: 2DV4.

6E5 [AKA VT-215, 38665E, CV239]; electron-ray tuning ind. (sim. to 6AB5/6N5), T9 bulb, 6-pin base, heater 6.3 V @ 300 mA (RCA) {CA4} 6-27-35) <6R>. Variants: 2E5, 1629.

6E6 Dual power triode, heater 6.3 V @ 600 mA, g_m

1.6 mS, 1.6 W out (NU) (2-15-35) <7B>.

6E7 Pentode, spray-shielded 6D6 on 7-pin base (Maj., NU, T) <7H>.

6E8, G, MG Triode-hexode conv. (French), octal w/ cap, heater 6.3 V @ 300 mA (6-2-39) <8K>.

6EU7 Min. duotriode, 12AX7 w/ nontapped heater of 6.3 V @ 300 mA, wired to pins 1 and 2 to reduce hum; claimed to be quieter than 12AX7, but has same published hum level as 12AX7A (GE, RCA, SY) (3-10-60) <9LS>.

6EW7 Duotriode, "9-T9" bulb, for TV vert. osc. and output - in first group of 9-T9 types along with 6HC8 (SY) (3-7-60) <9HF>.

6F4 Acorn UHF osc. triode, heater 6.3 V @ 225 mA, μ 17, 2 W, usable to 1.2 GHz, dual pins for grid and plate (RCA) {A2227} (8-11-44) <7BR>.

6F5, G, GT, M Metal triode, 7B4 char., μ 100 (RCA) {A2015} (5-28-35) <5M>. "G" (6-6-35) and "GT" {A2039} (4-11-38) are in ST12 and T9 bulbs respectively. "M" is Rogers "metal-spray" version.

6F6, G, GT [AKA VT-66, CV1186]; metal power pentode, 42 char., heater 6.3 V @ 700 mA, 11 W (GE, RCA) {A-4016, ZP-308} (5-28-35) <7S>. Variants: 1611, 1613, 1621. "G" [AKA 10E/346, KT63, NR85, ARP17, W1535, VT-66A, CV1911] is in ST14 bulb (RCA) {A4035} (6-6-35). "GT" is in T9 bulb (1-2-40).

6F7, M, S [AKA 38667, VT-70, CV1915]; triode-pentode, heater 6.3 V @ 300 mA (RCA) {A560} <7E>. "M" (Rogers) and "S" are spray-shielded.

6F8G [AKA VT-99, 38768F, CV1917]; duotriode, ST12 bulb w/ cap, equals two 6J5s (6SN7GT and 7N7 char.) (RCA) (9-24-37) <8G>.

6FV8, A Min. 9-pin triode-pentode, heater 6.3 V @ 450 mA, triode μ 40, pentode g_m 6.5 mS (SY) (2-16-59) <9FA>. Variant: 8446.

6FW7 T3 submin. VHF duotriode, heater 6.3 V @ 300 mA, μ 36, 1.7 W (SY) (10-22-62) <8LM>. Variant: 3FW7.

6FW8 Min. 9-pin VHF duotriode, heater 6.3 V @ 400 mA, μ 33 (RCA) (6-22-59) <9AJ>. Variant: 7803.

6FX7 T3 submin. VHF duotriode, heater 6.3 V @ 300 mA, μ 36, 1.7 W (SY) (7-9-62) <8LK>. Variant: 3FX7.

6G5 [AKA 6U5]; electron-ray tuning indicator, remote-cutoff 6E5 (RCA) {CA4A} (2-21-36) <6RA>.

6G6G [AKA VT-198A, CV1926]; power pentode, heater 6.3 V @ 150 mA, g_m 2,3 mS, 2.75 W (SY) (11-29-37) <7AC>. Derivative: 6AK6.

6G7 [AKA 89R]; duodiode rectifier - pentode (Can.) sim. to 6B7.

6G8G Duodiode-pentode (Aust.) <8E>. In reflex IF-AF stage in AWA Radiola 517-M.

6GE8 Min. 9-pin triode-pentode, heater 6.3 V @ 900 mA, triode μ 5.4, pentode g_m 3.2 mS (SY) (10-5-59) <9LC>. Variant: 7734.

6GM5 Beam power tube, 7591 in 9-T9 bulb (SY) (3-13-61) <9MQ>. (Compactron equiv.: 7868.)

6II4GT Single octal diode, heater 6.3 V @ 150 mA (TS) (5-11-39) <5AF>.

6II5 [AKA 6G5]; electron-ray tuning ind., ring display, replaceable by 6U5/6G5 (RA) (10-24-36) <6R>.

6H6, G, GT, WGT [AKA VT-90, CV1301, 38566H]; metal duodiode, heater 6.3 V @ 300 mA, 420 V PIV, 16 mA total (RCA) {A6016, ZP-314} (8-15-35) <7Q>. "G" (6-6-35) is in ST12 bulb. "GT" [AKA VT-90A, CV1931, q. v.] is in T9 bulb (4-11-38). "WGT" is ruggedized "GT.".

6H7, M, S High-μ triode - power pentode (Can.). "M" and "S" (8-21-34) are spray-shielded.

6II8G Duodiode-pentode, octal w/ cap (French), heater 6.3 V @ 300 mA, g_m 2.4 mS (6-27-39) <8E>.

6J4, WA Min. UHF triode, for G-G amps., heater 6.3 V @ 400 mA, μ 55, g_m 12 mS (RCA, SY) {A2209A} (3-6-44) <7BQ>. Variants: 7137, 7245, 8532.

6J5, Sel., G, G Sel., GX, GT, GTX, M, WGT [AKA 38565J, VT-94, CV1067]; med.-μ metal triode, heater 6.3 V @ 300 mA, μ 20 (RCA) (6-24-37) <6Q>. "Selected" is AKA VT-94B. "G" [AKA VT-94A, 38765J; Br. NR78A, VR67, L63, CV1932] is in ST12 bulb (RCA) {A2042} (5-26-36). "G Selected" is AKA VT-94C. "GX" and "GTX" have ceramic bases ((HY, SY). "GT" [AKA VT-94D, CV1934] is in T9 bulb (4-11-38). "WGT" is ruggedized "GT." "M" is Rogers "metal-spray" version.

6J6, A, W Min. UHF med.-μ duotriode, heater 6.3 V @ 450 mA, μ 38, 3 W total, common cathode (RCA) {A4434} (9-10-42) <7BF>. Variants: 5844, 5920, 5964, 6030, 6045, 6099, 6101, 6211, 6535, 6927, 7244.

6J7, G, GT, GTX, MG [AKA VT-91; (Br.) VR56, CV1074, 10E/11402, EF36, NR49]; sharp-cutoff pentode, metal 6C6 (RCA) {A4014} (8-15-35). Variants: 1620, 6059, 7000. "G" is in ST12 bulb; has internal shield cage on Pin 1; is sim. to Br. NR83 (RCA) {A4040} (6-6-35) <7R>. "GT" [AKA VT-91A, CV1937] is in T9 bulb (4-11-38). "GTX" is "GT" w/ ceramic base (HY). "M" is Rogers "metal-spray" version.

6J8G, EG, M Triode-heptode conv., sim. to 7J7 (KR, SY, TS) (2-21-38) <8H>. "M" is Rogers "metal-spray" version.

6JII8 Min. 9-pin beam-deflection tube, sheet-beam balanced modulator, heater 6.3 V @ 300 mA (GE) (7-10-61) <9DP>. Also see 7360, 6AR8, 6ME8.

6K4 T3 submin. triode, heater 6.3 V @ 150 mA, μ 20, 2.25 W, oscillates to 1.5 GHz; effectively a submin. 6J5 {SD834} (GE, SY) (11-23-45). Variants: 5703, 5897, 5977, 5892, 6778.

6K5, G, GT Octal triode equiv. to triode section of 6Q7 (TS) (5-26-36) <5U>.

6K6G, GT [AKA VT-152A, CV1938]; power pentode, octal 41, 7B5 char. (RCA) {A4047} (5-26-36) <7S>. "GT" [AKA VT-152, CV207] has T9 bulb (4-11-38).

6K7, G, GT, GTX, M [AKA VT-86, 38567K; Br. CV1942, ARP34, EF39, VR53]; remote-cutoff pentode, metal 78, heater 6.3 V @ 300 mA, g_m 1.7 mS (RCA) {A4015} (8-15-35) <7R>. "G" [AKA VT-86A, Br. NR81, CV1941] has ST12 bulb (RCA) {A4036} (6-6-35). "GT" [AKA VT-86B, CV1943] has T9 bulb (4-11-38). "GTX" is "GT" w/ ceramic base (HY). "M" is Rogers "metal-spray" version. Variant: 5732.

6K8, G, GT, GTX [AKA VT-167, 38568K, CV18]; metal triode-hexode conv., heater 6.3 v @ 300 mA (RCA) (1-31-38) <8K>. "G" [AKA VT-167A, CV1944] has ST12 bulb (6-15-38). "GT" has T9 bulb (3-31-39). "GTX" is "GT" w/ ceramic base.

6L4 Acorn triode, sim. to 6F4 but derated to 1.7 W, slightly lower capacitances, rated at higher voltage (RCA) {A2297} (5-23-49) <7BR>.

6L5G [AKA VT-213A, CV151]; triode, 6C5G w/ 150-mA heater (RCA) {A2045} (6-12-36) <6Q>.

6L6, A, G, GA, W, Y, WGA, GAY, GB, GC [AKA VT-115, CV208]; metal beam power tube, heater 6.3 V @ 900 mA, 19 W (RCA) {A494} (3-24-36) <7S>. Preceded, and electrically related to, 807. Grandfather of all beam power tubes. Introduced 1936 with eyeletted base seal. Variants of 6L6: 1614, 1619, 1622, 1631, 1632, 7581. "A" and "W" are first and final ruggedized versions. "Y" has Micanol base. "G" [AKA VT-115A, CV1947] has ST-16 bulb; sim. to Br. NR77 (RCA) {A4048} (6-8-36). Variants of "G": 6AL6G, 6BG6G, T21, 1223. "GA" has ST-14 bulb, still rated at 19 W (SY) (3-16-43). Variants of 6L6GA: 1222, 5932. "WGA" is ruggedized "GA." "GAY" is "GA" w/ Micanol base. "GX" has ceramic base (HY, SY). "GB" [AKA 5881] has T12 bulb (4-16-54). "GC" is "GB" uprated to 30 W by use of button stem and 11-mil. plate material in place of 7-mil. (RCA) (12-1-58). Variants of "GC": 7027A, 7581.

6L7, G [AKA VT-87, CV1951]; metal pentagrid mixer-amp., two control grids, for separate osc. or for use in volume expanders, etc. (RCA) {A599} (4-29-35) <7T>. Variant: 1612. "G" [AKA VT-87A, CV1951] has ST12 bulb (RCA) {A5506} (6-6-35).

6M5 Min. 9-pin power pentode, heater 6.3 V @ 710 mA, g_m 10.0 mS, 3.9 W out (HY) (4-29-49) <9N>.

6M6G Power pentode (French) sim. to EL11, heater 6.3 V @ 1.2 A (12-5-38) <7AC>.

6M7G Triple-grid amp. (French), heater 6.3 V @ 300 mA, g_m 3.4 mS (1-8-40) <7R>.

6M8G, GT Diode-triode-pentode, heater 6.3 V @ 600 mA, μ 100, g_m 1.9 mS (8-1-39) <8AU>.

6ME8 Min. 9-pin beam-deflection tube, sheet-beam balanced modulator, heater 6.3 V @ 300 mA (GE) (7-10-61) <9RV>. Also see 7360, 6AR8, 6JH8.

6MJ8 Compactron triple-triode, heater 6.3 V @ 900 mA, μ 17; equals 1-½ 12AU7s (GE) (6-5-67) <12HG>. Also see 7688.

6N4 [AKA CK611]; min. UHF triode, heater 200 mA, μ 32, 3 W; char. sim. to 2C35 (HY, RA, TS) (9-25-45) <7CA>.

6N5 [AKA 6AB5, q. v.]; electron-ray tuning ind. (RCA, TS) {CA13} <6R>.

6N6, GT/G, MG Direct-coupled duotriode, metal 6B5, sim. to 6AB6G, heater 6.3 V @ 800 mA. Triad successor to Speed 293 "Triple Twin" (7-9-36) <7AU>. Makers licensed to make 6N6 were AS, HY, KR, NU, RA, SY, STC, and Triad. "GT" (9-27-40) has T9 bulb.

6N7, Sel, G, GT/G [AKA VT-96, CV1957]; power duotriode, metal 6A6, 53 char. (RCA) {A4017} (3-21-36) <8B>. "Selected" is AKA VT-96B. "G" (octal 6A6) has ST16 bulb.; is sim. to Br. NR73 (RCA) {A4039}. "GT/G" has T9 bulb (9-27-40).

6N8 [AKA EBF80]; min. 9-pin duodiode-pentode, heater 6.3 V @ 300 mA, g_m 2.2 mS (HY) (8-19-49) <9HE>. → 10038 → ST 12

6P5GT/G Triode, T9 bulb, octal 76 (TS) (4-11-36) <6Q>.

6P6 Aust. power pentode, heater 6.3 V @ 700 mA (3-25-36) <6AC>.

6P7G Triode-pentode, octal 6F7 (6-6-35) <7U>.

6P8G Triode-hexode conv. (Br.), heater 6.3 V @ 800 mA (11-10-38) <8K>.

6Q4 [AKA EC80]; min. 9-pin triode, usable to 500 MHz, heater 6.3 V @ 450 mA, 4 W, g_m 12 mS (AX, HY, RCA) {A2298, A2304} (7-15-49) <9S>. RCA: "export" type replaceable by 6BC4.

6Q5G [AKA 884]; thyratron for scope-sweep generation (DuM) (1-2-43) <6Q>.

6Q6G Diode-triode, 6Q7G w/ 150-mA heater; nearest equiv. is 6T7G (6-12-36) <6Y>.

6Q7, G, GT [AKA VT-92, CV588]; duodiode - high-μ triode, metal 75, μ 70 (RCA) {A4018} (12-9-35) <7V>. Variant: 6118. "G" [AKA VT-92A; Br. NR68, DH63, CV589] has ST12 bulb, can replace 6B6G (RCA) {A4038}. "GT" has T9 bulb (4-11-38).

6Q8 Foreign equiv. of 6A8 <8A>.

6R4 [AKA EC81]; min. 9-pin triode, oscillates to 1.2 GHz, heater 6.3 V @ 240 mA, μ 16, 5 W (AX, HY) (7-15-49).

6R6G Octal pentode, heater 6.3 V @ 300 mA, g_m 1.45 mS, called a "TV" type (AS) (12-15-38) <6AW>.

6R7, G, GT, M [AKA VT-88, 38567R; Br. VR55, 10E/11401, AR-21, EBC33, NR48, 1639, CV1963]; duodiode - med.-μ triode, metal 85, μ 16; 7E6 and 12BD6 char. (RCA) {A4022} (1-21-36) <7V>. "G" [AKA VT-88A, CV1962] has ST12 bulb (RCA) {A4041} (5-26-36). "GT" [AKA VT-88B,

CV1964] has T9 bulb (6-6-39). "M" is Rogers "metal-spray" version.

6R8 Min. 9-pin triple-diode - triode, one diode has own cathode; heater 450 mA, μ 16 (HY, TS) (10-14-49) <9E>.

6S5 Electron-ray tuning ind. (Can.) (4-1-37) <6R>.

6S6GT Power pentode, heater 6.3 V @ 450 mA, g_m 4.0 mS (1-12-40) <5AK>.

6S7, G Remote-cutoff pentode, metal 6D6 w/ 150-mA heater (TS) (2-23-38) <7R>. "G" (~~6K7G~~ w/ 150-mA heater) has ST12 bulb (RCA) {A4064} (6-12-36).

6S8GT Triple-diode - 6SQ7 plus independent diode w/ its own cathode, μ 100 (TS) (9-28-45) <8CB>.

6SA7, Y, GT, GTX, GTY WGT [AKA VT-150, CV1966]; metal pentagrid conv. (RCA) (11-18-38) <8R>. "Y" has Micanol base. "GT" [AKA VT-150A, CV1967] has T9 bulb (3-17-39) <8AD>. "GTX" and "GTY" are "GT" w/ ceramic and Micanol bases. "WGT" is ruggedized "GT."

6SB7Y Metal pentagrid conv. w/ Micanol base, intended for FM use; has higher current ratings than 6SA7; heater 6.3 V @ 300 mA, high conversion g_m of 0.88 mS (RCA) {A5581A} (1-10-46) <8R>.

6SC7, GT, GTY [AKA VT-105, CV1969]; metal high-μ duotriode, heater 6.3 V @ 300 mA, μ 70, g_m 1.3 mS (RCA, TS) (11-18-38) <8S>. Metal version of 6SL7GT w/ grid leads pinned-out away from heater. Variant: 1655. "GT" has T9 bulb (1-29-42). "GTY" is "GT" w/ Micanol base.

6SD7GT Remote-cutoff pentode, heater 6.3 V @ 300 mA, g_m 3.4 mS, sim. to 6SG7GT (RA, TS) (4-15-40) <8N>.

6SE7GT Triple-grid amp. sim. to 6SG7GT, 6SH7GT, heater 6.3 V @ 300 maA, g_m 3.1 mS (4-30-40).

6SF5, GT Metal triode, single-ended 6F5, 7B4 char. (RCA) (10-7-38) <6AB>.

6SF7, GT Metal diode - remote-cutoff pentode, 6B8 less one diode and single-ended, unrelated to 6F7 (3-3-41) <7AZ>.

6SG7, GT, Y [AKA VT-211, CV1978]; metal remote-cutoff RF pentode, heater 6.3 V @ 300 mA, g_m 4.7 mS; effectively a remote-cutoff 6SH7 (RCA, SY) (2-7-41) <8BK>. Variant: 6006. "GT" has T9 bulb (1-15-46). "GTY" is "GT" w/ Micanol base.

6SH7, GT, L Metal sharp-cutoff HF pentode sim. to 7L7, heater 6.3 V @ 300 mA, g_m 4.9 mS (RCA, SY) (8-1-41) <8BK>. "GT" has T9 bulb (11-20-42). "L" is "GT" shortened by 0.32" (SY) (1-17-46).

6SJ7, Y, W, GT, GTX, GTY, WGT [AKA VT-116, CV70]; metal sharp-cutoff pentode; not specifically a single-ended 6J7; g_m 2.5 mS (RCA, SY) (10-7-38) <8N>. Variant: 5693. "Y" [AKA 6SJ7 Spl, VT-116B, CV866] has Micanol base. "W" is ruggedized. "GT" [AKA VT-116A, CV590] has T9 bulb (5-1-39). "GTX" and "GTY" are "GT" w/ ceramic and Micanol bases. "WGT" is ruggedized "GT."

6SK7, Y, W, GT, GTX, GTY, WGT [AKA VT-117, CV1981]; metal remote-cutoff pentode, heater 6.3 V @ 300 mA, g_m 2.3 mS (RCA, SY) (10-7-38) <8N>; effectively a remote-cutoff 6SJ7. "GT" [AKA VT-117A, CV-1982] has T9 bulb (5-1-39). For "W," "Y," "GTX," and "GTY," see 6SJ7.

6SL7GT, A, L, WGT [AKA VT-229, CV171]; high-μ duotriode, 7F7 char., sim. to 6SC7GT (RCA, SY) (7-2-41) <8BD>. Variant: 5691. Also see 6SC7. "A" and "L" are early ruggedized versions; "WGT" is final. Variant: 6113.

6SN7GT, A, L, WGT [AKA VT-231, CV170]; med.-μ duotriode, dual 6J5GT, or single-ended GT version of 6F8G (RCA, SY) (3-3-41) <8BD>. Variants: 1633, 5692, 6042, 6180. "A" and "L" are early ruggedized versions; "WGT" is final ruggedized type, w/ heater-to-cathode voltage uprated from 100 V to 250 (RCA) {A4273B}. "GTA" is improved, uprated to 7.5 W total (4-6-50). "GTB" is controlled-warmup version of "GTA" for series-string receivers (6-8-54).

6SQ7, W, GT/G [AKA VT-103, CV1990]; metal duodiode - high-μ triode, sim. to 75 and 2A6; not precisely a single-ended 6Q7, μ 100 (RCA) (10-7-38) <8Q>. "W" is ruggedized. "GT/G" has T9 bulb (5-8-41).

6SR7, GT [AKA VT-233, CV109]; metal duodiode - med.-μ triode, single-ended 6R7 (RCA) (4-1-40) <8Q>. "GT" has T9 bulb (9-21-42).

6SS7, GT [AKA VT-199, CV70]; metal remote-cutoff pentode, 6SK7 w/ 150 mA heater (TS) (4-22-41) <8N>. "GT" has T9 bulb (1-5-46).

6ST7 [AKA VT-205, CV109]; metal duodiode - med.-μ triode, 6SR7 w/ 150-mA heater (12-1-41) <8Q>.

6SU7GTX, GTY Duotriode; sel. 6SL7GT w/ Micanol base, low gas and leakage; tested for balance (TS) (3-15-44) <8BD>. "6SU7 matching specifications are passed by about half of production 6SL7s." Variant: 6188. "GTX" is "GTY" w/ ceramic base; "GTY" has Micanol base.

6SV7 Metal diode - sharp-cutoff pentode, heater 6.3 V @ 300 mA, g_m 3.6 mS (SY, TS) (6-20-46) <7AZ>.

6SZ7 Metal duodiode - high-μ triode; single-ended, 150-mA 6Q7 (TS) (11-20-45) <8Q>.

6T4 Min. low-μ UHF triode, heater 6.3 V @ 225 mA, μ 13 (HY, TS) (9-19-52) <7DK>.

6T5 Tubular electron-ray tuning indicator w/ ring display (4-12-37) <6R>, disc. in 1939. Replaceable by 6U5/6G5.

6T6 Triple-grid amp. (Can.; Rogers?), heater 6.3 V @ 450 mS, g_m 5.5 mS (9-29-39) <6Z>, "metal-spray" type.

6T7G [AKA 6Q6G]; duodiode-triode, 150-mA version of 6Q7G (RCA, TS) {A4064} (10-22-36) <7V>.

6T8, A [AKA EABC80]; min. 9-pin triple-diode-triode; one diode has own cathode; heater 6.3 V @ 450

mA, μ 70; sim. to min. 6S8GT (SY) (5-20-47) <9E>.

6T9 Compactron, equiv. to ½ 12AX7 + 6AQ5 (GE, SY) (9-9-63) <12FM>

6U5 [AKA 6G5, VT-98, CV504]; electron-ray tuning indicator, T9 tubular 6G5 (RCA) {CA18} (4-19-37) <6R>.

6U6GT Beam power tube, optimized for low supply voltage, heater 6.3 V @ 750 mA, 11 W, sim. to 6W6GT (RA, SY) (6-6-40) <7S>.

6U7G Remote-cutoff pentode, octal 6D6, sim. to 6S7G, 6W7G, g_m 1.6 mS (RCA, TS) {A4071} (8-11-36) <7R>.

6U8, A [AKA ECF82]; min. 9-pin med.-μ triode - sharp-cutoff pentode, heater 6.3 V @ 450 mA, triode μ 40, pentode g_m 5 mS (SY, TS) (5-15-51) <9AE>. Variants: 6678, 7059, 7731, 8445.

6V4 [AKA EZ80]; min. 9-pin full-wave rectifier, heater 6.3 V @ 600 mA, 350 V PIV, 90 mA (HY, TF) (4-29-49) <9M>.

6V5GT Beam power tube, slightly derated 6V6GT w/ heater on pins 7 & 8 (GE) (11-15-48) <6AO>.

6V6, G, GTA, GTX, GTY [AKA VT-107, CV510]; metal octal beam power tube sim. to 7C5, heater 6.3 V @ 450 mA, 12 W (RCA) {A4055A} (1-3-38) <7S>. Variant: 7184. "G" [AKA VT-107B, CV509] has ST14 bulb (RCA) {A4055} (11-9-36). "GT" [AKA VT-107A, CV511] has T9 bulb (7-10-39). "GTA" is "GT" uprated to 14 W, w/ controlled warmup time. Variants: 5871, 5992, 7408. "GX" and "GTX" have ceramic bases. "Y" and "GTY" have Micanol bases.

6V7G Duodiode-triode, octal 85 (TS) (8-14-36) <7V>.

6V8 Min. 9-pin triple diode - triode, 6T8 w/ pinout scrambled (HY, SY) (9-6-50) <9AH>.

6W5G [AKA VT-196, CV279]; duodiode rectifier, ST12 octal bulb, heater 6.3 V @ 900 mA, 1250 V PIV, 100 mA (TS) (1-4-37) <6S>.

6W6GT [AKA 6DG6GT]; beam power tube, heater 6.3 V @ 1.2 A, 10 W; sim. to 6U6GT, 6Y6G (TS) (6-8-39) <7S>.

6W7G Sharp-cutoff pentode, 150-mA version of 6J7G (TS) (1-17-38) <7R>.

6X4, W [AKA EZ90]; min. full-wave cathode-type rectifier, min. 6X5GT, heater 6.3 V @ 450 mA, 1250 V PIV, 70 mA (RCA, SY) {R6277} (4-2-46) <5BS>. Variants: 5993, 6063, 6202, 6203.

6X5, G, GT, L, WGT [AKA VT-126, CV279]; metal full-wave rectifier, heater 6.3 V @ 600 mA, 1250 V PIV, 70 mA (RA, RCA, SY) {R6019} (2-13-36) <6S>. Variant: 5852. "G" [AKA VT-126A, CV572] is octal 84 in ST12 bulb (RCA) {R6028}. "GT" [AKA VT-126B, CV574] has T9 bulb (4-11-38). Variants: 1274, 5838, 5839. "L" and "WGT" are ruggedized.

6X6G Electron-ray tuning indicator, octal (Rogers) (4-1-37) <8EV>.

6X8 Min. 9-pin triode-pentode, heater 6.3 V @ 450 mA, triode μ 70, pentode g_m 5.5 mS (SY) (4-2-51) <9AK>.

6Y3G Diode rectifier (Can.), heater 6.3 V @ 700 mA (1-9-42) <4AC>.

6Y5 Spray-shielded full-wave 6-pin rectifier, heater 6.3 V @ 800 mA, 350 V in, 50 mA <6J>. A mercury type as made by Majestic, but a vacuum type as produced by RCA and TS.

6Y6G, GA, GT [AKA VT-168A, 38766Y, CV205]; beam power tube for low B+ voltage, ST14 octal bulb, heater 6.3 V @ 1.25 A, 12.5 W, sim. to 6U6GT, 6W6GT (RCA) {A4072} (7-15-37) <7S>. "GA" has T12 bulb; "GT," T9 bulb.

6Y7G Class B duotriode, octal 79 (TS) (1-5-37) <8B.

6Z3 [AKA 1-V, q. v.]; rectifier, w/drawn.

6Z4 [AKA 98, 84/6Z4, q. v.]; full-wave rectifier (8-15-35) <5D>.

6Z5 [AKA 12Z5]; full-wave rect, 84 char., heater 12.6 VCT @ 300 mA, 230 V in, 60 mA (Maj., NU) <6K>.

6Z7G Dual power triode for Class B amps, 300-mA heater, 16 W total (TS) (5-24-37) <8B>.

6ZY5G Full-wave rectifier, heater 6.3 V @ 300 mA, 1250 V PIV, 40 mA, like low-htr.-cur. 6X5G (RCA, TS) {R6052} (5-25-37) <6S>.

7A4 [AKA VT-192, CV1770, XXL]; loktal triode, 6J5 char. w/ short-lead VHF construction (SY) (3-8-39) <5AC>.

7A5 Loktal beam power tube, heater 6.3 V @ 750 mA, 35L6 char. but derated to 5.5 W (SY) (5-4-39) <6AA>.

7A6 Duodiode, 150-mA loktal 6H6 (SY) (6-10-38) <7DX>. Variant: 5679.

7A7, LM Pentode, loktal 6SK7 (SY) (12-9-38) <8V>. "LM" is rare "loktal-metal" version in metal shell with "octalox" pin wafer (RCA) (9-21-39).

7A8 Octode conv., 150-mA loktal 7B8, sim. to 6D8G (SY)) (6-10-38) <8U>.

7AB7 [AKA 1204]; short loktal VHF pentode, heater 6.3 V @ 150 mA, g_m 1.8 mS (SY, TS) {SC651} (11-5-45) <8BO).

7AD7 Loktal power/video pentode, heater 6.3 V @ 600 mA, g_m 9.5 mS (SY) (4-2-47) <8V>.

7AF7 [AKA M1039]; loktal med.-μ duotriode, heater 6.3 V @ 300 mA, μ 16, 2.75 W (NU, SY) (11-30-44) <8AC>.

7AG7 Loktal sharp-cutoff RF pentode, heater 6.3 V @ 150 mA, g_m 4.2 mS (SY) (11-15-45) <8V>.

7AH7 Loktal semi-remote-cutoff pentode, heater 6.3 V @ 150 mA, g_m 3.3 mS (TS) (1-30-47) <8V>.

7AJ7 Loktal sharp-cutoff pentode for preamps, heater 6.3 V @ 300 mA, g_m 1.6-2.3 mS (SY) (8-15-47) <8V>.

7AK7 Loktal pentode w/ suppressor brought out as gating electrode; heater 6.3 V @ 800 mA, g_m 6 mS (SY) (3-20-48) <8V>. Claimed by SY as the

first tube developed specifically for computer use.

7AN7 [AKA PCC84]; min. 9-pin med.-μ duotriode, heater 7.0 V @ 300 mA, μ 24, for VHF cascode amps. (HY) (8-15-55) <9DD>.

7AU7 Min. duotriode, 12AU7 w/ heater 7.0 VCT @ 300 mA (HY, SY) (11-15-54) <9A>.

7B4 High-μ triode, loktal 6F5 (SY) (1-30-40) <5AC>.

7B5, LT Power pentode, loktal 41 or 6K6 (SY) (2-16-39) <6AE>. "LT" (GE) is rare soldered-seam metal version (3-13-40); for RCA "LT," see 35A5LT.

7B6, LM Loktal duodiode - high-μ triode, 300-mA variant of 7C6 (SY) (2-16-39) <8W>. For "LM," see 7A7LM (RCA) (3-13-40).

7B7 Remote-cutoff pentode, 150 mA, g_m 1.8 mS (SY) (12-8-38) <8V>.

7B8, LM [AKA VT-208, CV22]; pentagrid conv., loktal 6A8 (SY) (12-16-39) <8X>. For "LM" [AKA VT-208A], see 7A7LM (RCA) (3-13-40).

7C4 [AKA 1203A]; loktal UHF diode, heater 6.3 V @ 150 mA, 420 V PIV, 9 mA (3-26-43) <4AH>.

7C5, LT Beam power tube, loktal 6V6GT (SY) (2-16-39) <6AA>. Also see 2C48. "LT" is rare "soldered-seam" version (GE); for RCA "LT," see 35A5LT (3-13-40).

7C6 Loktal duodiode-triode, 150-mA 7B6 (SY) (12-9-38) <8W>.

7C7 [AKA VT-193, CV76]; loktal sharp-cutoff pentode, heater 6.3 V @ 150 mA, g_m 1.3 mS, sim. to 6W7 (SY) (3-31-39) <8V>. Variant: 1273.

7D4 [AKA NU-1018]; never registered? (NU).

7D7 Loktal diode-pentode, heater 6.3 V @ 450 mA (7-6-39) <8AR>.

7E5 [AKA VT-241, 1201, CV890]; loktal UHF triode, heater 6.3 V @ 150 mA, μ 36, g_m 3.0 mS, 4 W; unusually short leads; oscillates to 750 mHz (TS) (3-26-43) <8BN>.

7E6 [AKA VT-188, CV891]; duodiode - med.-μ triode, loktal 6R7 (TS) (4-12-39) <8W>.

7E7 Duodiode-pentode, loktal 6B8 (TS) (6-12-39) <8AE>.

7F7, W [AKA VT-189, CV893]; duotriode, loktal 6SL7 (8AC) (SY) (6-12-39) <8AC>. "W" is ruggedized.

7F8, W Short loktal VHF duotriode, 300 mA, μ 48 (SY) (7-31-44) <8BW>. "W" is ruggedized.

7G7 [AKA 1232]; loktal sharp-cutoff "television" pentode, heater 6.3 V @ 450 mA, g_m 4.5 mS, sim. to 7L7 (TS) (1-30-40) <8V>.

7G8 [AKA 1206]; short loktal VHF twin tetrode, heater 6.3 V @ 300 mA, 1.65 W, usable to 400 MHz (SY, TS) {SD706} (3-22-44) <8BV>. Variant: 1296.

7H7 [AKA VT-190, CV75]; loktal remote-cutoff TV-FM IF pentode, 300 mA, g_m 3.8 mS; sim. to 6AB7, 6SG7 (SY) (3-20-40) <8V>.

7J7 [AKA VT-194, CV22]; triode-hexode conv., loktal 6J8G, sim. to 7S7 (SY) (7-12-39) <8BL>.

7K7 Loktal duodiode-triode; diodes have own cathode; triode equals ½ 7F7 (SY) (8-15-41) <8BF>.

7L7 Loktal sharp-cutoff pentode, sim. to 7G7 w/ 300 mA heater current; also to 6SH7, 7H7; g_m 3.0 mS (RA, SY) (3-1-40) <8V>.

7N7 Duotriode, loktal 6SN7GT (RA, SY) (4-15-40) <8AC>.

7Q7 Pentagrid conv., loktal 6SA7 w/ higher conversion g_m of 0.55 mS (SY) (8-21-39) <8AL>.

7R7 Loktal duodiode - remote-cutoff pentode, like 6SF7 w/ g_m raised to 3.0 mS and a second diode (SY) (3-7-41) <8AE>.

7S7 Loktal triode-heptode conv. sim. to 6J8, 7J7; higher conversion g_m (0.525 mS) than 7J7 (SY) (5-19-41) <8BL>.

7T7 Loktal triple-grid amplifier sim. to 7L7, 7G7, 7H7; heater 6.3 V @ 300 mA, g_m 4.9 mS (GE, TS) (3-4-42).

7V7 [AKA 1231]; loktal sharp-cutoff power/video pentode, heater 6.3 V @ 450 mA, g_m 5.8 mS, 4.0 W (SY) (1-21-41) <8V>. 1231 was the first loktal tube released, in May 1938. Actually has four grids, nos. 2 and 3 being connected together as screen. Also see 7W7.

7W7 Loktal variable-μ RF-IF pentode, essentially same as 7V7 except for capacitances (SY) (11-7-41) <8BJ>. Variant: 1282.

7X6 Full-wave rectifier, heater 6.3 V @ 1.2 A, 700 V PIV, 75 mA (TS) (7-6-49) <7AJ>.

7X7 [AKA XXFM]; loktal duodiode - hi-μ triode; one diode has own cathode; heater 6.3 V @ 300 mA, μ 100 (SY) (11-30-44) <8BZ>.

7Y4 Loktal full-wave rectifier, sim. to 6X5 w/ heater cut to 500 mA and limited to 70 mA out (SY) (12-9-38) <5AB>.

7Z4 [AKA VT-181, CV252]; full-wave loktal rectifier, robust 7Y4, heater 6.3 V @ 900 mA, 1250 V PIV, 100 mA out (SY) (12-30-40) <5AB>.

12A5 Power pentode, ST12 bulb, 7 pins, heater 12.6 VCT @ 300 mA, 8 W (*not* a 12-V 6A5) (JB, RA, TS) <7F>.

12A6, Y, GT, GTY [AKA VT-134, CV525]; metal power pentode, heater 12.6 V @ 150 mA, 7.5 W (RCA) (10-16-39) <7S>. Variant: 5659. "GT" has T9 bulb (5-21-43). "Y" and "GTY" have Micanol bases.

12A7~~GT/G~~ Diode rectifier - power pentode (*not* a 12-V 6A7 or 25A7), ST12 bulb w/ cap, 7-pin base, heater 12.6 V @ 300 mA, pentode 550 mA out; rectifier 30 mA (RCA, TS) {A512} <7K>.

12A8G, GT Pentagrid conv., 12-V versions of 6A8G and 6A8GT (SY) (1-7-39) <8A>.

12AB5 Min. beam power tube, heater 12.6 V @ 200 mA, 12 W, sim. electrically to 12V6 (SY) (7-5-55) <9EU>. Variant: 7061.

12AD7 Min. 9-pin high-μ duotriode, 12AX7 w/ heater raised to 225 mA, promoted on basis of low hum (HY, SY) (10-10-55) <9A>.

12AH7GT [AKA VT-207, CV529]; duotriode, 12-V 6AH7GT (TS) (2-5-41) <8BE>.

12AH8 Min. 9-pin triode-heptode conv., heater 12.6 VCT @ 150 mA (HY) (10-25-51) <9BP>.

12AJ7 Min. 9-pin triode-heptode, heater 12.6 V @ 150 mA (HY) (12-19-55) <9CA>.

12AL5 Min. duodiode, 12-V 6AL5 (SY) (6-6-47) <6BT>. Variant: 7055.

12AT6 Min. duodiode-triode, sim. to min. 12Q7 (RCA, SY) (10-25-45) <7BT>.

12AT7, A, WA, WB, WC [AKA ECC81, B152, B309]; min. 9-pin high-μ duotriode, dual 6AB4, heater 12.6 VCT @ 150 mA, μ 62 (SY) (5-20-47) <9A>. "WA," "WB," and "WC" are ruggedized versions w/ progressively tighter process controls. Variants: 6060, 6201, 6677, 6679, 7728.

12AU6 Min. pentode, 12-V 6AU6 (SY) (12-20-46) <7BK>. Variant: 8426.

12AU7, A, W [AKA ECC81]; min. 9-pin med.-μ duo-triode, separate cathodes (dual 6C4), heater 12.6 VCT @ 150 mA, μ 17 (RCA, SY) {A4498} (10-18-46) <9A>. "A" is low-microphonics version. Variants: 5814, 5963, 6067, 6189, 6670, 6680, 7316, 7318, 7489, 7730.

12AV6 Min. duodiode - high-μ triode, 12-V 6AV6 (RCA) (12-20-47) <7BT>.

12AV7 Min. low-noise sharp-cutoff duotriode, dual 6BC4, heater 12.6 VCT @ 225 mA, μ 48 (SY) (2-14-50) <9A>. Variants: 5965, 6829.

12AW6 Min. sharp-cutoff pentode, 12-V 6AG5 (SY) (2-3-47).

12AX7, A, WA [AKA ECC83]; min. 9-pin high-μ duotriode, min. 6SL7GT, heater 12.6 VCT @ 150 mA μ 100 (SY) (9-25-47) <9A>. "A" has lower hum and microphonics. Variants: 6EU7, 12AD7, 5721, 5751, 6057, 6681, 7025, 7058, 7494, 7729.

12AY7 Min. 9-pin high-μ duotriode, for audio preamps, heater 12.6 VCT @ 150 mA, μ 48 (GE) (12-7-48) <9A>. Variants: 2082, 6072.

12AZ7, A Min. 9-pin high-μ duotriode, heater 12.6 VCT @ 225 mA, μ 60 (SY) (3-2-51) <9A>. Variants: 6085, 7898.

12B6M Diode-triode (Can.), octal w/ cap, heater 12.6 V @ 150 mA, μ 100, spray-shielded (7-1-40) <6Y>.

12B7, ML [AKA 14A7, q. v.]; loktal pentode (*not* a 12-V 6B7) (6-6-39). "ML" is rare soldered-can metal version (GE) (7-7-39).

12B8GT Triode-pentode, heater 12.6 V @ 300 mA, triode μ 97, pentode g_m 1.8 mS (*not* a 12-V 6B8) (GE) (2-15-39) <8T>.

12BA6, A Pentode, min. 12SG7 (GE) (10-25-45) <7BK>.

12BA7 Pentagrid VHF conv., 12-V 6BA7 (GE) (6-9-48) <8CT>.

12BD6 Min. RF pentode, 12-V 6BD6 (GE) (5-15-46) <7BK>.

12BE6, A Pentagrid conv., min. 12SA7 (GE) (10-25-45) <7BK>.

12BF6 Min. rcvg. duodiode -triode, min. 12SR7 (GE) (10-25-45) <7BT>.

12BH7, A Min. 9-pin med.-μ duotriode based on 12SN7, heater 12.6 V @ 300 mA, μ 16.5 (GE) (5-19-50) <9A>. Variant: 6913.

12BK6 Duodiode-triode, different from 12AV6 only in being 7/8" taller (GE) (1-17-50) <7BT>.

12BR7, A Min. 9-pin duodiode - high-μ triode; diodes have own cathode; heater 12.6 VCT @ 225 mA, μ 60 (GE) (1-24-55) <9CF>. Variant: 8447.

12BT6 Min. duodiode - high-μ triode; differs from 12AT6 only in being ½" taller (1-17-50) <7BT>.

12BU6 Min. duodiode - low-μ triode; 12BT6 w/ μ of 16 (GE) (1-17-50) <7BT>.

12BV7 Pentode, 12BY7 w/ g_m 12 mS instead of 13 (GE) (2-21-55) <9BF>.

12BY7, A [AKA 12BV7]; min. 9-pin sharp-cutoff RF/video pentode, heater 12.6 VCT @ 300 mA, g_m 13 mS, 6.25 W (6-11-51) <9BF>. Variants: 7054, 7733, 8448.

12C8, Y, -K9, Spl. [AKA VT-169]; metal duodiode - semi-remote-cutoff pentode; a 12-V 6B8, *not* a 12-V 6C8; heater 12.6 V @ 150 mA, g_m 1.3 mS;(GE) (2-2-39) <8E>. Variant: 5660. "Y," "-K9," and "Spl" [AKA VT-153, 1664, CV128] have Micanol base and shell connected to Pin 1. Variant: 1664.

12DW7 Min. 9-pin asymmetric duotriode, equals ½ 12AU7 + ½ 7025, heater 12.6 VCT V @ 150 mA, μs 17 and 100 (1-26-59). Variant: 7247.

12E5GT/G Triode, 12-V 6P5GT/G (GE) (7-26-39) <6Q>.

12F5GT Triode, 12-V 6F5GT (TS) (1-7-39) <5M>.

12G4 Min. med.-μ triode, min. 12J5GT (GE, HY) (4-10-53) <6BG>.

12G7G Duodiode-triode, octal base, heater 12.6 V @ 150 mS, μ 70 <7V>.

12H4 Min. med.-μ triode, heater 12.6 VCT @ 150 mA, μ 20 (GE, HY) (11-20-53) <7DW>.

12H6 [AKA VT-214, CV916]; metal duodiode, 12-V 6H6 (GE) (5-5-41) <7Q>.

12HG7 Ruggedized frame-grid version of 12BY7A, uprated to 10 W and g_m 32 mS; heater cut to 260 mA (GE, RCA) (12-7-64) <9BF>.

12J5, GT, WGT [AKA VT-135A, CV534]; metal triode, 12-V 6J5 (GE) (4-6-50) <6Q>. "GT" [AKA VT-135, CV535] has T9 bulb (3-28-39). "WGT" is ruggedized "GT."

12J7G, GT Pentode, 12-V 6J7G (GE) (2-6-40) <7R>.

12K7G, GT Pentode, 12-V 6K7G (GE) (5-22-39) <7R>.

12K8, Y, Spl., GT Metal triode-hexode conv., 12-V 6K8 (RCA) (10-16-39) <8K>. "Y" and "Spl." [AKA VT-132, CV24] have Micanol bases. "GT" has T9 bulb.

12L6GT Beam power tube, 35L6GT w/ heater 12.6 V @ 600 mA (GE) (5-7-54) <7AC>. Variant: 1632.

12L8GT Dual power pentode, dual 6G6, heater 12.6 V @ 150 mA, 2.5 W (GE) (8-27-43) <8BU>. Vari-

ant: 1644.

12Q7G, GT Duodiode-triode, 12-V 6Q7G (GE) (1-7-39) <7V>.

12S8GT Triple-diode-triode, 12-V 6S8GT (GE) (1-30-47) <8CB>.

12SA7, Y, GT/G, GTY [AKA VT-161, CV537]; metal pentagrid conv., 12-V 6SA7 (RCA) (2-2-39) <8R>. "Y" has Micanol base. "GT/G" has T9 bulb (12-1-41) <8AD>.

12SC7 [AKA VT-268, CV540]; metal duotriode, 12-V 6SC7 (GE) (2-2-39) <8S>. Variant: 1634.

12SF5, GT Metal triode, 12-V 6SF5 (GE) (9-21-39) <6AB>.

12SF7, Y Metal diode-pentode, 12-V 6SF7 (GE) (3-3-41) <7AZ>. "Y" has Micanol base. "GT" has T9 bulb (2-1-46).

12SG7, Y, GT [AKA VT-209, CV694];metal pentode, 12-V 6SG7 (GE) (2-17-41) <8BK>. "Y" has Micanol base. "GT" has T9 bulb.

12SH7, GT [AKA VT-288, CV922]; metal pentode, 12-V 6SH7 (GE) (8-15-41) <8BK>. "GT" has T9 bulb.

12SJ7 [AKA VT-162, CV697]; metal pentode, 12-V 6SJ7 (GE) (2-2-39) <8N>.

12SK7, Y, GT/G, GTY [AKA VT-131, CV543]; metal pentode, 12-V 6SK7 (GE) (2-2-39) <8N>. Variant: 5661. "GT/G" has T9 bulb (12-1-41). "Y" and "GTY" have Micanol bases.

12SL7GT, WGT [AKA VT-289, CV924]; duotriode, 12-V 6SL7GT (GE) (6-2-41) <8BD>. "WGT" is ruggedized.

12SN7GT, GTA, WGT Duotriode, 12-V variant of 6SN7GT (GE) (4-22-41) <8BD>. "GTA" has controlled warm-up time.

12SQ7, GT [AKA VT-104, CV546]; metal duodiode-triode, 12-V 6SQ7 (GE) (2-2-39) <8Q>. "GT" has T9 bulb (5-1-39).

12SR7, GT [AKA VT-133, CV700]; metal duodiode-triode, 12-V 6SR7 (GE) (10-16-39) <8Q>. "GT" has T9 bulb (5-21-43).

12SW7, GT Metal duodiode-triode; version of 12SR7 for operation from aircraft DC power (GE) (6-20-46) <8Q>. "GT" (also 6-20-46) was disc. in favor of 12SW7.

12SX7GT Duotriode, version of 12SN7GT for operation from aircraft DC power (GE) (6-20-46) <8BD>.

12SY7, GT Metal pentagrid conv., version of 12SA7(GT) for operation from aircraft DC power (9-25-45) <8R>. "GT" has T9 bulb <8AD>.

12X3 Diode, bulb w/ cap (Can.) (1-31-44). HV rectifier in AN/VVX-1.

12Y4 Duodiode (Can.), heater type. In W. S. (Cdn.) No. 9 (4-15-44) as det.-AVC tube.

12Z3 [AKA 14Z3]; rectifier, ST12 bulb, 4-pin base, heater 12.6 V @ 300 mA, 700 V PIV, 55 mA (GE, RCA, TS) {R6001} <4G>.

12Z5 [AKA 6Z5, q. v.]. (JB).

13CW4 Nuvistor triode, 6CW4 w/ heater 13.5 V @ 60 mA, promoted for antenna-mounted (remote-powered) TV preamps (RCA) (11-26-62) <12AQ>.

14A4 Loktal UHF triode, 12-V 7A4 (GE) (10-24-40) <5AC>.

14A5 Loktal power pentode, 12-V 7A5 (GE) (10-24-40) <6AA>.

14A7 [AKA 12B7]; loktal pentode, 12-V 7A7 (SY) (10-28-40) <8V>. Intro. by SY as 12B7.

14AF7 [AKA XXD]; duotriode, 12-V 7AF7 (SY) (7-21-42) <8AC>.

14B6 Loktal duodiode-triode, 12-V 7B6 (GE) (3-1-40) <8W>.

14B8 Loktal pentagrid conv., 12-V 7B8 (GE) (10-24-40) <8X>.

14C5 Loktal power pentode, 12-V 7C5 (SY) (10-14-40) <6AA>.

14C7 Loktal sharp-cutoff pentode, slightly different from 7C7; optimized for 120-V B+ (SY) (10-14-40) <8V>. Variant: 1280.

14E6 Loktal duodiode-triode, 12-V 7E6 (GE) (11-18-40) <8W>.

14E7 Loktal duodiode-pentode, 12-V 7E7 (GE) (4-22-41) <8AE>.

14F7 Loktal duotriode, 12-V 7F7 (SY) (10-24-40) <8AC>.

14F8 Rcvg, loktal duotriode, 12-V 7F8 (GE) (7-29-46) <8BW>.

14GT8, A Min. 9-pin rcvg. duodiode - high-μ triode, heater 14.0 V @ 150 mA, μ 72, separate cathodes for diodes (GE) (12-14-59) <9KR>. Variant: 7724.

14H7 Loktal pentode, 12-V 7H7 w/ g_m reduced from 4.0 to 3.8 mS (GE) (8-9-40) <8V>.

14J7 Loktal triode-heptode conv., 12-V 7J7, sim. to 14S7 (GE) (8-23-39) <8BL>.

14K7 [AKA UCH42]; octal triode-hexode, *not* a 12-V 7K7, heater 14.0 V @ 100 mA, part of Euro. 100-mA AC-DC series (10-10-55) <8GY>.

14L7 [AKA UBC41]; octal duodiode-triode, *not* a 12-V 7L7, heater as for 14K7 (10-10-55) <8GZ>.

14N7 Loktal duotriode, 12-V 7N7 (GE) (10-14-40) <8AC>.

14Q7 Loktal pentagrid conv., 12-V 7Q7 (SY) (3-1-40) <8AL>.

14R7 Loktal duodiode-pentode, 12-V 7R7 (SY) (3-7-41) <8AE>.

14S7 Loktal triode-heptode conv., 12-V 7S7, sim. to 14J7 (GE) (11-7-41) <8BL>.

14W7 Pentode, 12-V 7W7 (GE) (11-7-41) <8BJ>.

14X7 Loktal duodiode - high-μ triode, 12-V 7X7 (GE) (4-4-47) <8BZ>.

14Y4 Loktal rectifier, 12-V 7Y4 (GE) (10-7-40) <5AB>.

14Y7 (3-4-57). No further information.

14Z3 Diode rectifier, 4-pin base, heater 14.0 V @ 300 mA, 250 V in, 60 mA <4G>.

18FW6, A Min. remote-cutoff pentode, 12BA6 w/ heater 18 V @ 100 mA, part of SY 100-mA AC-DC lineup

w/ 18FW6, 18FY6, 34GD5, and 36AM3 (SY, RCA) (12-15-58) <7BK>.

18FX6 Min. pentagrid converter, 12BE6 w/ heater 18 V @ 100 mA (SY, RCA) (12-15-58) <7CH>. Also see 18FW6.

18FY6 Min. duodiode - high-μ triode, 12AV6 w/ heater 18 V @ 100 mA (RCA, SY) (12-15-58) <7BT>. Also see 18FW6.

20A5 Gas trigger tube (SY).

20J8GM Triode-heptode conv. (Can.), 6J8 w/ heater 20.0 V @ 150 mA, spray-shielded (Rogers?) (9-18-39) <8H>.

25A6, GT Metal power pentode, octal 43, heater 25 V @ 300 mA, 5.3 W (RA, RCA, TS) {A4011} (12-9-35) <7S>. "GT" (4-11-38) has T9 bulb (RCA) {A4037}.

25A7GT/G Octal diode rectifier - pentode (*not* a 25-V 6A7 or 12A7), heater 25 V @ 300 mA; pentode is small, at 2.25 W (TS) (6-23-36) <8F>.

25AC5GT/G Triode, 25-V 6AC5; same suggested driver tubes (TS) (10-18-38) <6Q>.

25B5 Duotriode direct-coupled amp., sim. to 6B5 but derated; heater 25 V @ 300 mA (TS) (8-17-36) <6D>.

25B6, G, GT Metal power pentode, heater 25 V @ 300 mA, 12.5 W (*not* a 25-V 6B6) (TS) (8-5-36) <7S>. Variant: 5824. "GT" has T9 bulb (3-28-39).

25B8GT Triode-pentode, 25-V 12B8GT, but *not* a 25-V 6B8GT (GE, TS) (3-28-39) <8T>.

25C6G, GA Beam power tube, 6Y6G w/ heater 25 V @ 300 mA (*not* a 25-V 6C6) (GE, TS) (5-15-39) <7AC>. "GA" has T12 bulb.

25D8GT Diode-triode-pentode (*not* a 25-V 6D8), heater 25 V @ 150 mA, triode μ 100, pentode g_m 1.9 mS (TS) (3-31-39) <8AF>.

25L6, G, GT [AKA VT-201, CV220]; metal beam power tube, 35L6GT w/ heater 25 V @ 300 mA, 10 W (RCA) {A4050} (11-4-36) <7AC>. "G" has ST14 bulb (RCA, TS) {A4050} (3-30-37). Variant: 1285. "GT" [AKA VT-201C, CV551] has T9 bulb (4-11-38). Variant: 6046.

25N6G Duotriode, octal 25B5 (TS) (8-17-36) <7W>.

25X6GT Full-wave rect./doubler, heater 25 V @ 150 mA, 125 V in, 60 mA (3-31-39) <7Q>.

25Y4, GT [AKA PY31]; metal diode rectifier, heater 25.0 V @ 150 mA, 125 V in, 75 mA (6-6-39) <5AA>.

25Y5 Full-wave rectifier/doubler, heater 25 V @ 300 mA, 700 V PIV, 85 mA per plate (GE) (11-7-34) <6E>.

25Z3 Rectifier, heater 25.0 V @ 300 mA (5-6-41) <4G>.

25Z4, GT Metal rectifier sim. to 25Y4GT, same heater (12-12-38) <5AA>.

25Z5 [AKA 38255]; full-wave rectifier/doubler, heater 25 V @ 300 mA, 700 V PIV, 75 mA per plate (RCA, TS) {R604} (8-30-35) <6E>.

25Z6, GT, WGT Metal full-wave rectifier/doubler, octal 25Z5 (RCA) {R6014} (12-9-35) <7Q>. "GT" is in T9 bulb (RCA) {R6027} (4-11-38).

26A5 Min. beam power tube, heater 26.5 V @ 300 mA, for 26.5 V B+; char. sim. to half of 26A7 (RCA) {A4449}.

26A6 Pentode, 6BA6 w/ heater 26.5-V @ 70 mA (HY, RCA) {A4465E} (6-20-46) <7BK>.

26A7GT Twin beam power tube (*not* a 25-V 6A7), heater 26.5 V @ 600 mA, optimized for 26.5-V B+, 4.0 W total (RCA, TS) {A5637E} (6-8-45) <8BU>.

26BK6 Min. duotriode-triode, 6BK6 w/ heater 26.5 V @ 70 mA (HY) (1-17-50) <7BT>.

26C6 Min. duodiode - low-μ triode; 6AT6 w/ heater 26.5 V @ 70 mA, optimized for 26-V B+ (HY, RCA) {A4454} (6-20-46) <7BT>.

26CG6 Min. remote-cutoff pentode, heater 26.5 V @ 70 mA, g_m 2.0 mS (HY) (10-10-50) <7BK>.

26D6 Pentagrid conv., 6BE6 w/ heater 26.5-V @ 70 mA (RCA) (6-20-46) <7CH>.

26E6WG Octal beam power tube, heater 26.5 V @ 300 mA, 12.5 W (TS) (10-3-55) <7S>.

26Z5W Min. 9-pin full-wave rectifier, heater 26.5 VCT @ 200 mA, 100 mA out (TS) (3-15-51) <9BS>.

28D7, W Loktal dual beam power tube, for 26.5 V on heater and plates, heater 400 mA, 6 W total (SY) (10-1-42) <8BS>. In BC-1206A, AN/ARN-5, etc. Variant: 1238.

28Z5 Full-wave loktal rectifier, 7Z4 w/ heater 28 V @ 240 mA (10-1-42) <6BJ>.

32L7GT Diode rectifier - beam power tube, heater 32.5 V @ 300 mA, 1.5 W out (TS) (2-15-39) <8Z>.

34GD5, A Min. beam power tube, 35C5 w/ heater 34 V @ 100 mA, 5 W (RCA, SY) (6-13-60) <7CV>. Also see 18FX6.

35A5, LT Beam power tube, loktal 35L6GT (TS) (12-9-38) <6AA>. "LT" is rare RCA version w/ "octalox" metal-banded base.

35B5 Min. beam power tube, min. 35L6GT (TS) (11-20-46) <7BZ>.

35C5, A Min. beam power tube (35B5 w/ revised pinout so that AC-DC receivers would not have 117 V on chassis even w/ 35C5 in wrong socket) (TS) (2-16-48) <7CV>.

35D5 (3-24-58). No further information.

35L6GT/G Beam power tube, heater 35 V @ 300 mA, 8.5 W (TS) (1-6-39) <7AC>.

35W4, A Rectifier, min. 35Z5GT/G (TS) (10-25-45) <5BQ>.

35Y4 Rectifier, loktal 35Z5 (TS) (11-8-40) <5AL>.

35Z3, LT Rectifier, loktal 35Z4 (TS) (12-9-38) <4Z>. For "LT," see 35A5LT.

35Z4, GT Rectifier, no lamp tap (1-6-39) <5AA>.

35Z5GT/G Rectifier, w/ lamp tap, heater 35 V @ 150 mA, 700 V PIV, 100 mA (TS) (2-17-39) <6AD>.

35Z6G Full-wave rectifier, 25Z6 uprated to 110 mA, heater 35.0 v @ 300 mA (TS) (3-15-40) <7Q>.

36AM3, A, B Min. rectifier, w/ lamp tap, heater 36 V @ 100 mA, 365 V PIV, 82 mA (RCA, SY, TS) (12-15-58) <5BQ>. Also see 18FX6.

40A1 Ballast tube for use in cathode ckt. of TV sweep tubes like 6BQ6GT (SY) (6-20-52).

40Z5GT [AKA 45Z5GT, q. v.]; rectifier (12-18-39) <6AD>.

45Z3 Min. rectifier, no lamp tap; heater 45 V @ 75 mA, introduced for use in 3-way powered portable radios (RCA, TS) {R6130} (4-1-41) <5AM>.

45Z5GT [AKA 40Z5GT]; rectifier, 45-V 35Z5GT (TS) (3-24-39) <6AD>.

50A1 Min. 9-pin ballast, 30 V @ 52 mA to 65 V @ 56 mA (Amperite, HY) (5-1-53) <9CM>. Apparently unique to late-model tube Zenith Trans-Oceanics.

50A2 [AKA 165R8, q. v.]; ballast (5-28-35).

50A5 Beam power tube, loktal 50L6GT (TS) (11-8-40) <6AA>.

50B2 [AKA 165R4, q. v.]; ballast (5-28-55).

50B5 Min. beam power tube, min. 50L6GT (RCA, TS) {A4388} (10-25-45) <7BZ>.

50C5, A Min. beam power tube, 50-V 35C5 (TS) (2-16-48) <7CV>.

50C6G, GA Beam power tube, 50-V 25C6G (TS) (10-9-39) <7AC>.

50L6GT/G Beam power tube, 50-V 35L6GT, uprated to 10 W (TS) (3-31-39) <7AC>.

50X6 Rectifier, loktal 50Y6 (TS) (10-29-46) <7AJ>.

50Y6GT/G Full-wave rectifier/doubler, 50-V 25Z6 (TS) (12-2-40) <7Q>.

50Y7GT Full-wave rectifier ("G" 50Y6 w/ lamp tap) (TS) (4-30-48) <8AN>.

50Z6G Full-wave rectifier/doubler, sim. to 50Y6GT/G, heater 50 V @ 300 mA (4-18-38) <7Q>.

50Z7G Full-wave rect./doubler, sim. to 50Y6GT/G, heater 50 V @ 150 mA w/ lamp tap (TS) (6-2-39) <8AN>.

70A7GT Diode rectifier - beam power tube w/ lamp tap, heater 70 V @ 150 mA, 1.5 W out, rectifier 60 mA (TS) (6-30-39) <8AB>.

70L7GT Diode rectifier - beam power tube, no lamp tap, heater 70 V @ 150 mA, 1.8 W out, rect. 70 mA, sim. to 25L6 + 117Z4 (TS) (3-28-39) <8AA>.

117L7/M7GT Diode rectifier - beam power tube, heater 117 V @ 90 mA, 6.0 W; rectifier 350 V PIV, 75 mA (TS) (9-25-39) <8AO>.

117N7GT Diode rectifier - pentode, sim. to 117P7GT except for pinout; more power than 117L/M7 (TS) (5-15-40) <8AV>.

117P7GT Diode rectifier - pentode, heater 117 V @ 90 mA, 1.0 W, rectifier 350 V PIV, 117N7GT w/ pinout scrambled (TS) (1-7-41) <8AV>.

117Z3 Rectifier, min. 117Z4GT, heater 117 V @ 40 mA, 330 V PIV, 90 mA (TS) (10-31-45) <4CB>.

117Z4GT Rectifier, heater 117 V @ 40 mA, 350 V PIV, 90 mA (TS) (4-22-41) <5AA>.

117Z6 GT/G, GC Full-wave rectifier/doubler, heater 117 V @ 75 mA, 700 V PIV, 60 mA per plate (TS) (8-5-39) <7Q>. Introduced with center-tapped heater; tap abandoned ca. 1940. "GC" (SY) had center-tapped heater like origonal 117Z6G; produced temporarily.